MISSOURI
CHILD FATALITY REVIEW PROGRAM
ANNUAL REPORT 1994

Multi-disciplinary
Trainers/Investigators of Child Abuse

September 1995

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DIVISION OF FAMILY SERVICES

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September, 1995

Dear Friends:

The enclosed annual report for Calendar Year 1994 will update you on the progress of Missouri's Child Fatality Review Program. Since the program's implementation in 1992, comprehensive data has been collected by the 115 county review panels detailing how our children die. The emerging trends indicate that we are addressing the problems that prompted the creation of Missouri's Child Fatality Review Program over three years ago:

- Improved identification of child maltreatment deaths. Deaths substantiated as child abuse and neglect have increased since the program's implementation. There have been no changes to the criteria for substantiating child abuse. Rather, the information-sharing inherent to the review process contributes to more thorough evaluations and investigations by each discipline.

- More accurate determinations of all causes of death, in particular, SIDS-type deaths which have steadily decreased for the past three years. (Other causes such as undiagnosed natural causes and accidental suffocations had previously been diagnosed as SIDS.)

Missouri is successfully addressing problems and deficiencies confirmed by data generated at the local level, reviewed at the local level and correlated by cooperating state agencies. While individual county panels immediately address local risks, the aggregate data from all 115 CFRP panels is analyzed to identify statewide trends and patterns and appropriate agency and legislative responses.

Communities around the state are being supported in their efforts to educate the public concerning potentially fatal risks to children. The lessons we learn from these untimely deaths will hopefully prevent future tragedies and keep other children safe and healthy.

Sincerely,

Carmen K. Schulze
Director

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MISSION STATEMENT

We recognize that the responsibility for responding to and preventing child fatalities lies with the community, not with any single agency or entity. We recognize that promoting more accurate identification and reporting of childhood fatalities will result in the development of prevention strategies for all childhood injuries in Missouri. Finally, we recognize that the implementation of fatality review panels will lead to improved coordination of services for children and families at the local level.

MISSOURI CHILD FATALITY REVIEW PROGRAM (CFRP)

BACKGROUND

In 1989 and 1990, a cooperative study by the Departments of Social Services and Health and the University of Missouri found that a significant number of child deaths (birth through age five) were not being accurately reported. The study revealed the causes of death were also not being adequately investigated or identified. As a result of this study, a task force was appointed in August 1990 by Gary Stangler, Director of the Department of Social Services, to further study child fatalities. The task force made recommendations that became the basis for House Bill 185 (HB 185) which established a statewide county-based system of child fatality review panels. This bill was passed in May 1991 and signed into law by Governor John Ashcroft in June 1991. The law, RSMo 210.192, became effective August 28, 1991, and was implemented on January 1, 1992.

RSMo 210.192 requires that every county in Missouri, 114 counties and the City of St. Louis, establish a multidisciplinary CFRP panel to examine the deaths of all children, that occur in Missouri, from birth through age 14. (Effective January 1, 1995, the program population was expanded to include children through age 17.) Under CFRP, counties have been grouped into regions, with regional coordinators (who live and have primary jobs in the regions they represent). They offer oversight, technical assistance and systemic evaluation to the counties in their region. The State Technical Assistance Team (STAT) assists the regions and individual panels with expert training and investigative assistance. An appointed state panel, whose membership reflects the multidisciplinary nature of the panel, provides oversight and makes recommendations for change and refinement.

RSMo 210.192 provides a mechanism for the legal exchange of information between cooperating disciplines and agencies. If the child death meets specific criteria, it is referred to the county's CFRP panel. Unlike an inquest, no vote or consensus of opinion is sought at the conclusion of the panel review. This is not an attempt to criminalize all child deaths.

The CFRP panels consist of local community professionals who attempt to identify the cause and circumstances of child deaths by bringing their own expertise and skills to the review. The value of the panel's work is measured by the improvement in the services provided by the individual participating disciplines. The collection and interpretation of resultant findings of a comprehensive review of child fatalities by each county can be used to determine trends, target prevention strategies, identify specific family/community needs or, when appropriate, support criminal justice intervention. The findings of each CFRP panel review are sent to STAT where they become valuable, retrievable statistics linked to birth and death data as well as Central Registry reports.

While problem identification and resolution can be used for the public's benefit, specific case details are never divulged or discussed beyond review. Reviews are not open to the public. Each panel and its members are advocates for the health and welfare of every child in their community; this includes the reasonable preservation of privacy. Regional in-service training is conducted annually. Individual panel

training, both scheduled and upon county request, is provided as necessary. STAT also makes CFRP-related presentations to professional and community/civic organizations.

Missouri's original law was sound and well-crafted. However, based upon program experience, it has evolved and changed to address the needs of the panel and the mandates of the program.

STATE TECHNICAL ASSISTANCE TEAM

Beginning as an implementation team for the Child Fatality Review Program, the State Technical Assistance Team (STAT) is a children's response unit of integrated, managed services. STAT's programs and partnerships enhance community level child protection while being minimally intrusive to victims, families and others. An organized, coordinated and timely evaluation and investigation of a child's death benefits every level of the investigation process. The Missouri model is based on concurrent panel review verses retrospective review as a means of positively influencing each discipline's mandates. Establishing the importance of immediate concurrent death reviews by the local panels continues to be a challenge.

To address the volume and complexity of child death-related issues in the major urban areas (Jackson County, St. Louis County and St. Louis City), individual urban models were created to address special requirements. While these panels do not have individual meetings for each death, they have information gathering and communication systems that, in fact, make their reviews immediate and concurrent.

Because the demands of the three major urban panels are so great, the Division of Family Services provides full-time staffing to support their efforts. The Urban Case Coordinator (UCC) positions were created with the sole purpose of assisting the panels to meet their program objectives. Beyond offering staff assistance to the panels, the UCC coordinates community services and programs to benefit children and families and to reduce initial and repeat fatalities in the highest risk settings. This follow-up and follow-through approach encourages the integration and coordination of services from the entire spectrum of community agencies.

Beyond the fatality and sexual abuse programs, STAT is perceived by many as an "omni-source" of information for the entire multi-disciplinary community of professionals dealing with child abuse and neglect events. The unit includes eight centralized FTE (director, administrator, technical investigator, four field investigator/trainers, one clerical position) and three "outposted" urban case coordinators. The responsibilities of the unit are described below:

- Implement, support and institutionalize the Child Fatality Review Program (RSMo 210.192 et seq.).
    - — Develop and support an efficient and effective delivery system (regional coordinators, urban case coordinators, state child fatality review panel, etc.)
    - — Train and maintain 115 county-based child fatality review panels.
    - — Provide services and assistance to the panels and multi-disciplinary panel members when requested.

— Collect information and data to identify patterns and risks to children.

— Encourage communities, organizations and agencies to develop deterrent and prevention strategies to reduce injuries and child fatalities.

- Organize and develop multi-disciplinary teams to investigate serious sexual abuse involving children (HB 1370 RSMo 660.520, 210.110 et seq).

  — Organize and train county-based child sexual abuse teams

  — Provide expertise and direct assistance in cases meeting criteria for involvement.

- Be an accessible and responsive children's events informational resource (24 hours a day, 365 days a year, via 800 number, pagers, on-call investigators) to the entire investigative community (DFS, law enforcement, coroner/medical examiners, prosecutors, juvenile court staff, health professionals, etc.).

  — Answer specific procedural questions relative to the child fatality and sexual abuse programs.

  — Provide referral, technical and informational support concerning all children's events (literature searches, medical consults, prosecution support, etc.) including physical abuse and other incidents outside the fatality and sexual abuse programs. STAT recognizes that many child fatalities are the end result of uninterrupted patterns of abuse and neglect.

  — Through awareness programs, training and newsletters, STAT transforms field experience and data into usable information that demonstrates the predictability and preventability of childhood injuries and fatalities.

1994 HIGHLIGHTS

- **CFRP legislation refined in Senate Bill No. 595**

  Refinements to RSMo 210.192 strengthened the law by defining more specifically:

  — Multi-disciplinary team information sharing, access and confidentiality;

  — CFRP role definitions, particularly the "State Panel" role;

  — EMS position as a core panel member;

  — CFRP population expansion (from birth through age 14 to birth through age 17 effective January 1, 1995).

- **SIDS deaths continue to decline**

  Since the CFRP program has been evaluating the deaths of children in Missouri, the number of sudden, unexplained deaths of infants classified as SIDS has steadily declined (29% over three years). Improved investigations, mandated autopsies and community panel reviews are contributing to more accurate cause of death determinations. Ultimately, this reduces the number of deaths mistakenly classified as SIDS.

  While no specific data about prenatal care is currently collected on the CFRP data collection forms, it appears some infant deaths officially attributed to natural causes may, in fact, be the result of certain lifestyle and environmental risk factors; e.g., lack of prenatal care, maternal drug and chemical abuse, smoking, etc.

  STAT has identified the need to demonstrate the correlation between prenatal risk factors and infant death and is committed to pursuing this issue.

- **Identified risks focus prevention initiatives**

  The data collected from the local child fatality review panels identify the leading causes of injury and death by county, region and state. STAT takes a simple and practical approach to prevention by locating resources and information on these causes and sharing effective "how to" strategies with professionals and families for implementing prevention ideas at the community level.

  A packet of prevention materials addressing identified risks to children is provided to a designated CFRP prevention liaison on each of the 115 child fatality review panels. Usually, the public health representative on the panel fulfills the liaison role. This individual receives periodic mailings and information that they, in turn, are encouraged to share with other child fatality review panel members. The panel members are viewed as activists and advocates for community education, awareness and prevention implementation.

  The Urban Case Coordinators (UCCs) are examples of such activists. In St. Louis City and St. Louis County, the UCCs have been instrumental in forming the Greater St. Louis Child Fatality Prevention Coalition. Comprised of professionals and community leaders, the Coalition has focused its efforts on developing prevention training modules for professionals who "make house calls" (e.g., social workers, public health nurses, family outreach workers, family court staff, neighborhood associations and churches).

  Such home-based intervention can enhance child health and well-being and prevent child abuse and neglect. The training modules targeted for professionals engaged in home visitation offer practical, effective strategies for preventing the leading causes of death and non-fatal injury in the St. Louis area.

  In Kansas City, the Urban Case Coordinator is working with other professionals to reduce youth violence through an initiative called Communities Investing in Today's Youth (CITY). One proposed approach to reduce youth violence and fatalities is a system that rapidly responds to the community's questions concerning local youth violence and stimulates action among public

health, neighborhood activists, law enforcement, crime prevention agents, the faith community and the media to locate, publicize and implement strategies to prevent violence.

The media will be relied upon to help educate the public on the steps they can take in their neighborhoods to prevent escalation of precipitous events and injury and death and help restore the community's confidence in its ability to protect its children.

- **Checklist improves death-scene evaluation/investigations**

While an autopsy permits pathologists to determine the medical cause of death, the death-scene investigation determines the manner and circumstances of the death which may influence the pathologist's approach to conducting the autopsy and his/her subsequent findings.

The certified Child-Death Pathologist Network has adopted the use of a standardized death-scene checklist which should enhance the ability of the pathologist to more accurately determine maltreatment cases.

- **Multidisciplinary training improves skills**

The concept of multi-disciplinary panels reviewing child deaths works. Why? It works because coordinated investigations and information-sharing provide a total picture in a more timely and thorough manner. This enhances the investigative outcome which could include providing services and treatment for family members, protection for children or criminal prosecution.

Because STAT spends a considerable amount of time with "front-line" workers, they are in a position to identify specific training needs of child protection professionals. On an annual basis, regionalized training is offered to all 115 panels. Specific skill-building training is also provided based on identified need. In 1994, the single-most requested training topic among child protection professionals was child interviewing. STAT, in conjunction with the University of Missouri Law Enforcement Training Institute, sponsored a two-day program that included child interviewing/interrogation skills and court testimony skills.

- **National symposium highlights Missouri model**

Over three hundred participants from 43 states and several countries attended the National Symposium on Child Fatalities: The Missouri Experience, held in St. Louis during July, 1994. The two and one-half day program highlighted the components and integrated systems unique to Missouri's Child Fatality Review Program.

As a result of the symposium, STAT has consulted with and made numerous follow-up visits to other states attempting to establish similar programs.

- **CFRP data-sharing strengthens local, state and federal partnerships**

STAT is cultivating local, state and federal partnerships with officials who have an interest and expertise in child safety and injury prevention. Coordinating and sharing Missouri's child fatality data with agencies such as the Department of Health, Office of Injury Control, the Environmental Protection Agency (EPA) and the U.S. Consumer Products Safety Commission is effective and mutually beneficial as we try to educate families about safety hazards and health risks.

WHAT NEXT?

STAT will continue to make refinements to its integrated systems of support for the multi-dimensional programs it is responsible for. Such refinements include the need to:

- **Invest resources to facilitate community change.**

  To continue this intensive process of community education and professional skill development, consideration should be given to extending the comprehensive, multi-disciplinary approach used for reviewing children's deaths to other complex social and health problems. STAT and its network is being used to evaluate and provide investigative assistance on complex cases of abuse/ neglect.

- **Improve parental/caregiver supervision through education and better access to child care services.**

  Far too many children were unsupervised at the time of their deaths. To prevent injuries and deaths because of lack of supervision, parents and care givers need age-appropriate information on the behavior and needs of children, access to child care and parent training.

- **Educate the multi-disciplinary investigative community and child fatality review panel members about the importance of accurately recording the level of supervision and circumstances immediately surrounding the death of the child.**

- **Closely monitor families at risk of a second preventable death or injury and provide them with appropriate services.**

  Too often, surviving children in the same family or household are at risk for significant morbidity and mortality. In the urban areas, urban case coordinators will be responsible for managing agency and community services and programs to benefit the siblings, their families and the community and to reduce additional fatalities in these high-risk families. The urban case coordinator will integrate agency and community services for immediate intervention and have ongoing contact with the family to ensure positive outcomes.

- **Implement a coordinated strategy aimed at reducing injuries and preventable deaths.**

  It is clear that the data from this program will more accurately define how and why children are dying in Missouri. By designating a member of each child fatality review panel to serve as a "prevention" liaison, STAT will encourage using the data to focus resources on interventions and prevention strategies. Panels will be encouraged to collaborate with hospitals, health departments, schools, social services agencies and community organizations in order to improve the success of programs and projects selected.

- **Continue multi-disciplinary training to encourage coordinated fatality evaluations and investigations.**

  Interaction among panel members enhances outcomes. During the coming months, STAT investigators will be targeting counties who have had few or no child deaths and providing CFRP program information and training.

- **Improve the quality of data being collected by local panels.**

  To date, data collection compliance has been exceptional. The quality and completeness of the information provided by panels will continue to be emphasized. STAT will also strive to improve the retrievability of the data and to provide feedback to the local panels.

- **Provide additional training on use of death-scene checklists.**

  The checklists are valuable to the pediatric pathologist in determining an accurate cause of death. Other agencies will likely find the information to be valuable as well. In particular, the data on sleep position is already of interest to organizations such as SIDS Resources. The checklist may also be beneficial to panel members with an investigative responsibility.

- **Educate CFRP panel members about the importance of injury prevention efforts, and continue to address risks and trends identified through data analysis.**

- **Improve and support efforts to develop a standardized "national model" for reviewing children's deaths. It is imperative to develop uniform terms and definitions so all states and programs can realistically compare data and events.**

WHAT CAN YOU DO?

Social workers and other front-line service providers who "make house calls" are presented with opportunities to observe family behaviors and environmental risks each time they interact and spend time in clients' homes. As professionals committed to the prevention of child injuries, it is our responsibility to help keep children and families safe.

As child and family advocates, we can intervene without intrusion, when risks to children and families are identified. An opportunity to educate parents and care givers on interventions that could save a child's life should never be missed. When visiting clients' homes, it is recommended that you:

- **Promote back or side sleep position for healthy infants.**

  Researchers have yet to find the answer to what causes Sudden Infant Death Syndrome (SIDS). It appears there is no single cause, but rather, SIDS may be the result of multiple risk factors. Several groups, including the American Academy of Pediatrics and the SIDS Alliance, believe parents can reduce their baby's risk of SIDS by simply placing the infant on its back to sleep.

- **Educate parents and care givers about proper sleeping arrangements and soft bedding products**.

  Parents and care givers should be made aware that it is dangerous to sleep with an infant. Infants die from accidental suffocation due to overlying every year.

  The U.S. Consumer Products Safety Commission has recommended that parents not put infants to sleep on soft bedding, including some products intended for use by infants. Some infants placed on fluffy, plush products such as sheepskins, quilts, comforters and pillows have been found on their stomach (the prone position) with their face, nose and mouth covered by the soft bedding. Such soft products may cause infants to rebreath exhaled air and suffocate.

  Ensure infants are put to sleep in a crib with a firm, flat infant mattress. Cribs should meet safety standards and not contain pillows, toys or other inappropriate materials.

- **Discuss fire safety.**

  Ensure working smoke detectors are installed in the home and that fire escape routes are in place. Family, care givers and baby sitters should know how to access emergency services (fire, police, ambulance, etc.).

- **Discuss appropriate disciplinary methods. If others care for the child, ensure they have similar disciplinary techniques.**

  It is never appropriate to hit a child. Alternatives to physical punishment include removing privileges, time-outs, and isolating or sending the child to their room. The methods of discipline should be adapted as the child grows older.

- **Discuss age-appropriate behaviors for children and unrealistic expectations of parents.**

  Beginning to toilet train at an inappropriate age causes stress and anxiety for the child and the parent. When children can't meet unrealistic demands, parents may become abusive to the child. There is no hard and fast rule for when children are developmentally ready to accomplish such activities. Remind parents to be patient and understanding.

- **Discuss the risks associated with shaking an infant.**

  Shaken Baby Syndrome, or more accurately, Shaken/Impact Syndrome, refers to possible brain, spinal and eye trauma resulting from shaking or impacting a baby's head. It is important that parents, child care providers and other care givers understand the serious risks associated with shaking, striking or throwing an infant or young child. The violent whiplash of shaking or the sudden deceleration of being thrown into a crib or bed can cause irreversible or fatal injuries.

- **Discuss supervision.**

  Parents should not leave a child home alone or with another child, even for a minute. While parents should be encouraged to have time to relax away from their children, babies and young children cannot take care of themselves and should not be left home alone.

  Even responsible teens need to have "house" rules if they are left unsupervised, especially when identified hazards are present in or around the home (e.g., swimming pool, medications, unsecured guns, etc.).

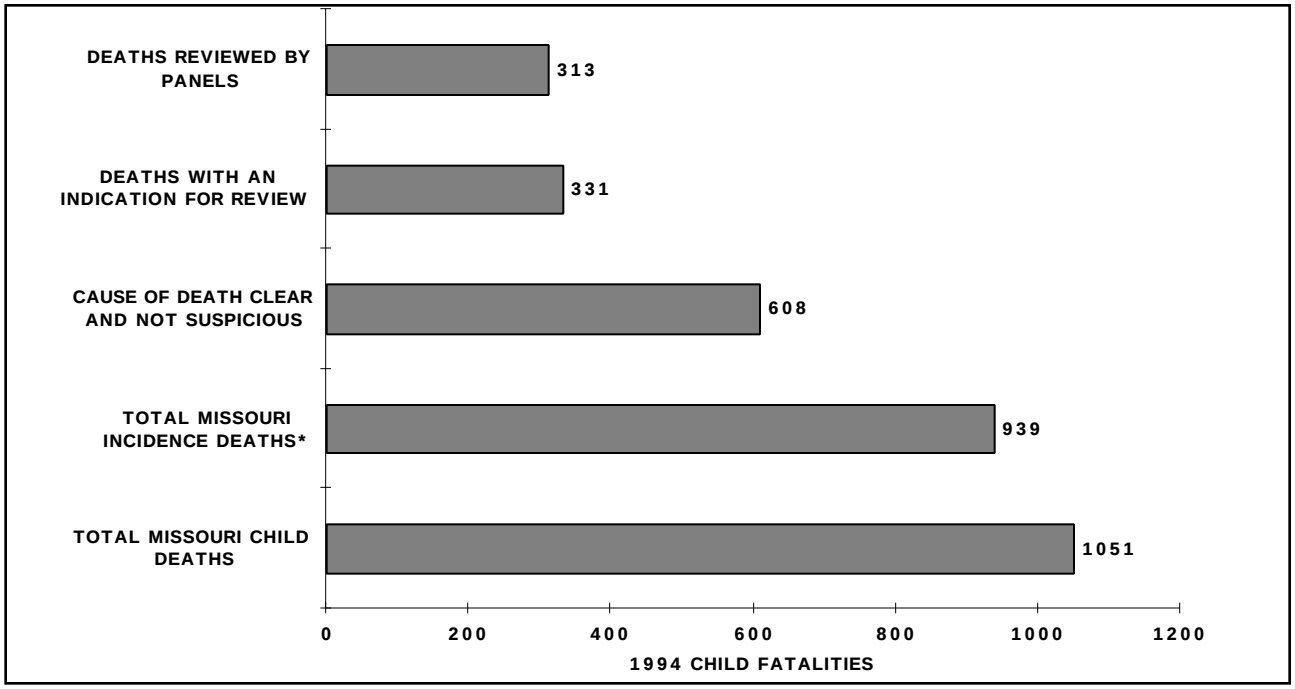
  If parents need to leave the house, even for a minute, encourage them to take their child with them or get a responsible person to watch the child. Another child — even a brother or sister — should not be left to take care of a baby until that child is responsible enough to do so.

Child Fatalities

All Child Fatalities, Birth through Fourteen Years of Age

During 1994, 1051 children less than 15 years of age died in Missouri (Figure 1). Of those, 939 were determined to be Missouri incidence deaths and therefore subject to review (see the glossary for a complete definition). The majority of deaths (608) had a clear, nonsuspicious cause and were not referred for further review. The remaining 331 had an indication for review, and of those 95% (313) were actually reviewed by panels.

Figure 1. 1994 Child Fatalities



*Illness/injury/event leading to death occurred in Missouri.

Figure 2. Age Distribution of Missouri Incidence Children's Deaths 1994

Sixty-nine percent of all deaths were children less than one year of age (Figure 2).

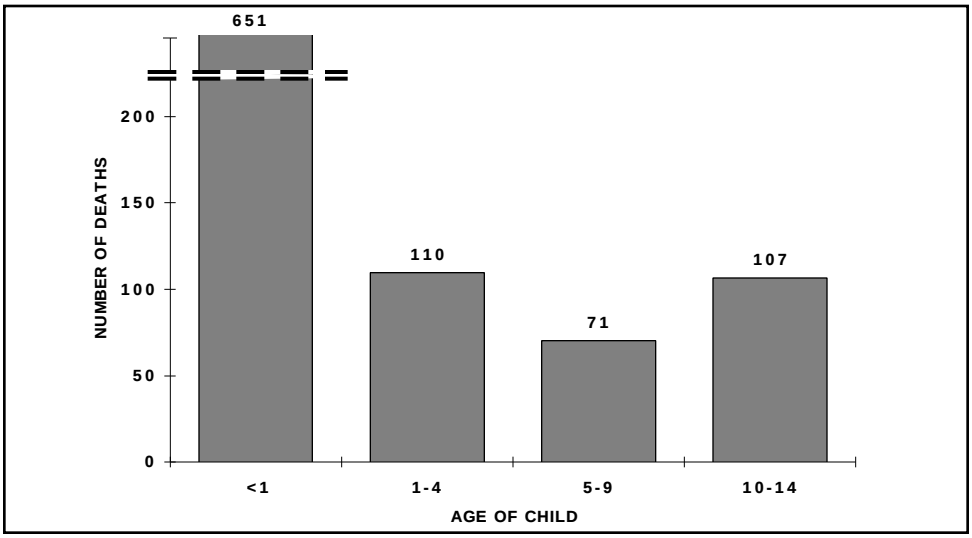
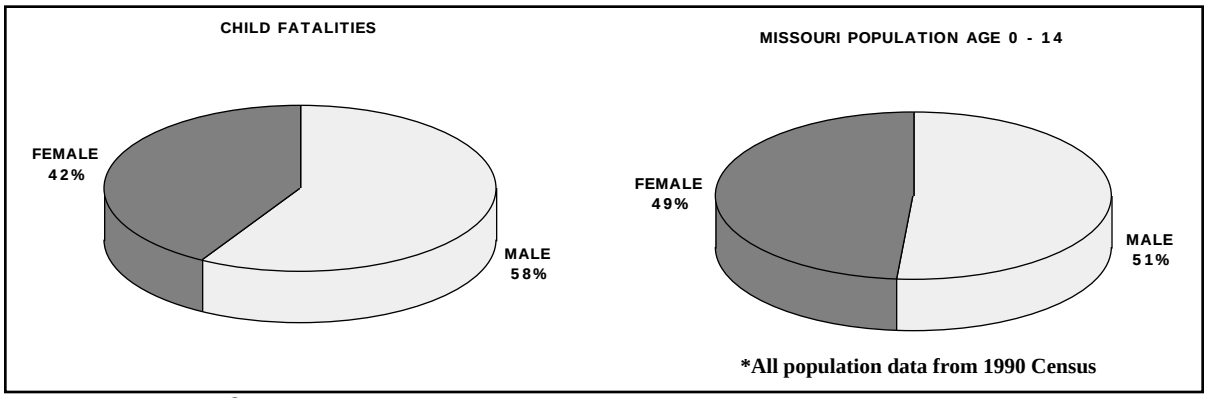
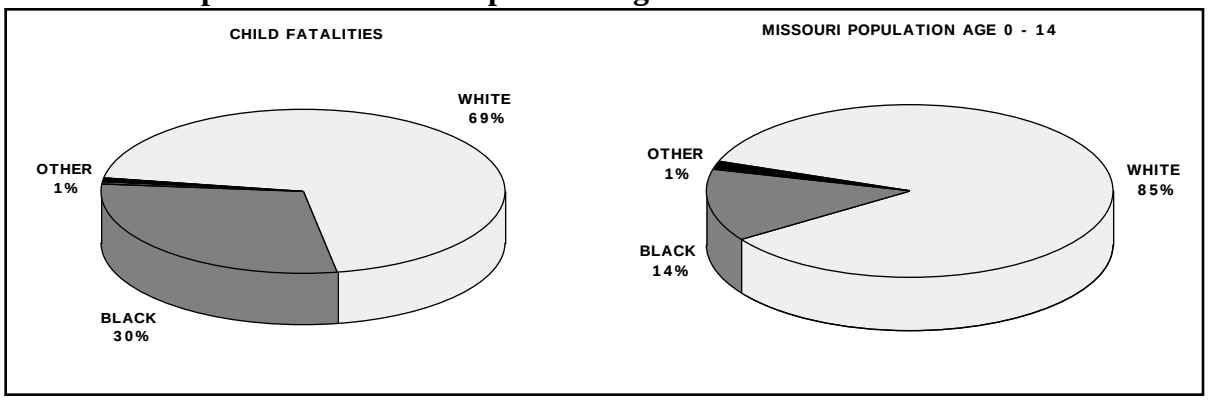


Figure 3. Sex of All Missouri Incidence Child Fatalities in 1994 Compared to Missouri Population Ages 0-14*



*All population data from 1990 Census

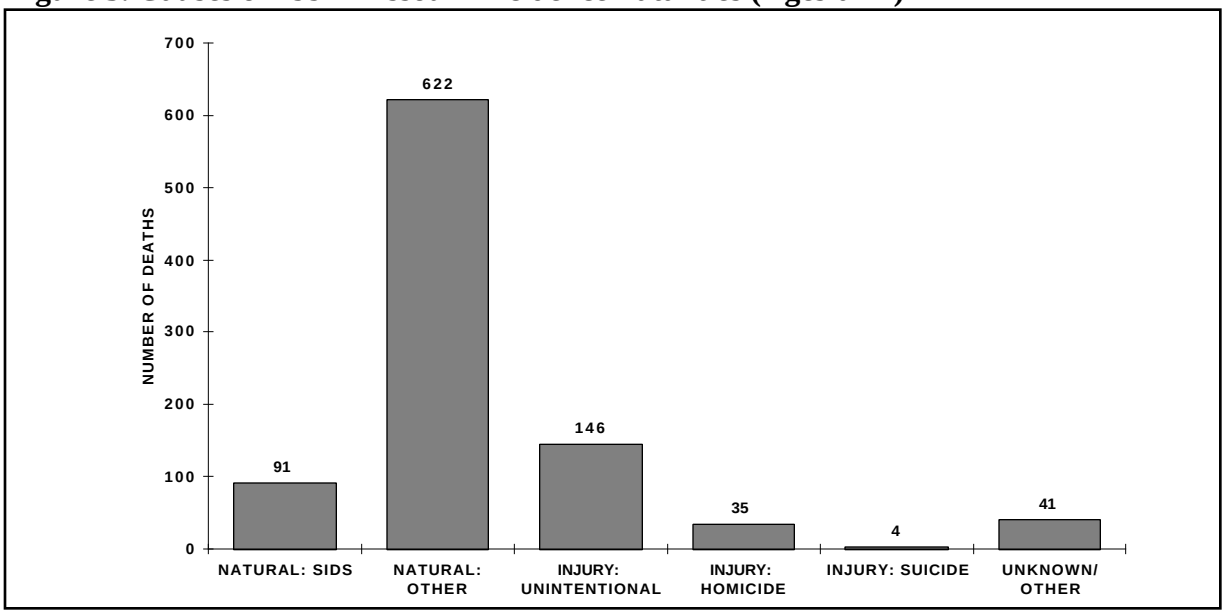
Figure 4. Race of All Missouri Incidence Child Fatalities in 1994 Compared to Missouri Population Ages 0-14



Fifty-eight percent of all deaths were male children (Figure 3), 69% were white children and 30% were black children (Figure 4).

Seventy-six percent (713) of all deaths were the result of natural causes (Figure 5). SIDS (Sudden Infant Death Syndrome) was the cause of 91 deaths, representing 13% of natural cause deaths and 10% of all deaths.

Figure 5. Causes of 1994 Missouri Incidence Fatalities (Ages 0-14)



Injuries were the cause of 185 deaths, representing 20% of all Missouri incidence deaths. Seventy-nine percent (146) of injury deaths were unintentional, 19% (35) were homicides and 2% (4) were suicides.

For the third year homicide was the leading cause of injury death among children less than one year of age (15). Other causes of injury deaths among children less than one were strangulation/suffocation (12), fire/burn injuries (4) and motor vehicle injuries (2) (Figure 6). The leading causes for deaths of all children less than 15 years of age were motor vehicle injuries (71), homicide (35), fire/burn injuries (22), drowning (20) and strangulation/suffocation (14) (Figure 7).

Figure 6. Leading Causes of Injury Deaths for Children Less Than One Year of Age in 1994

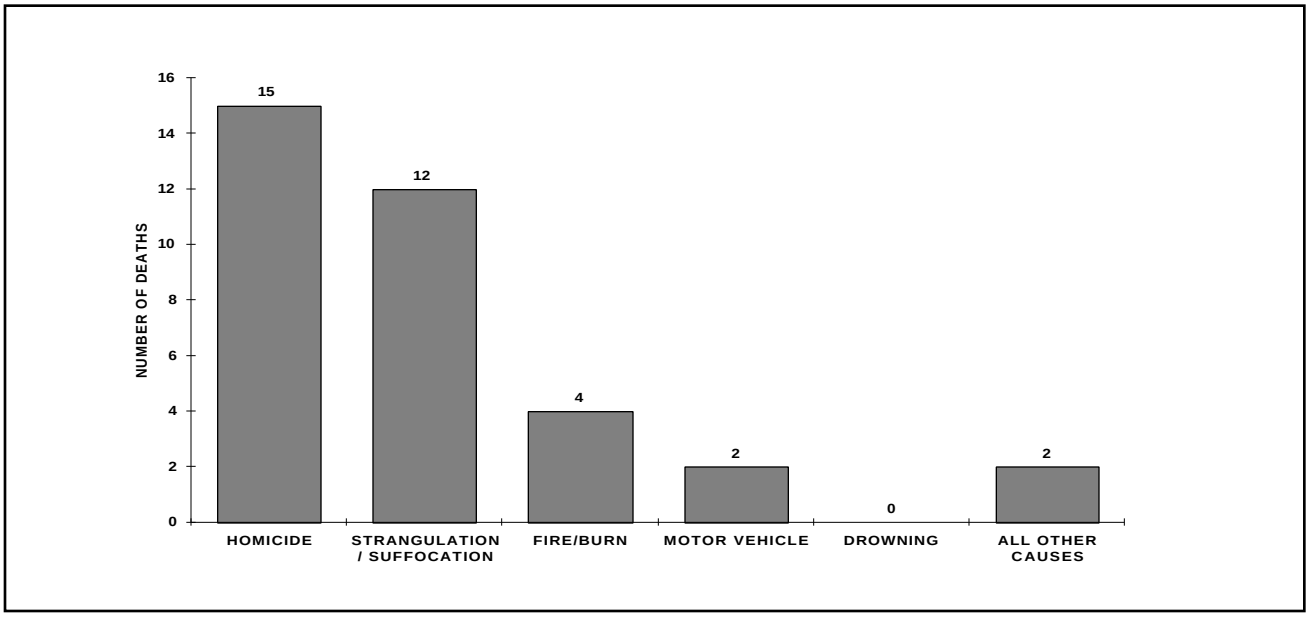
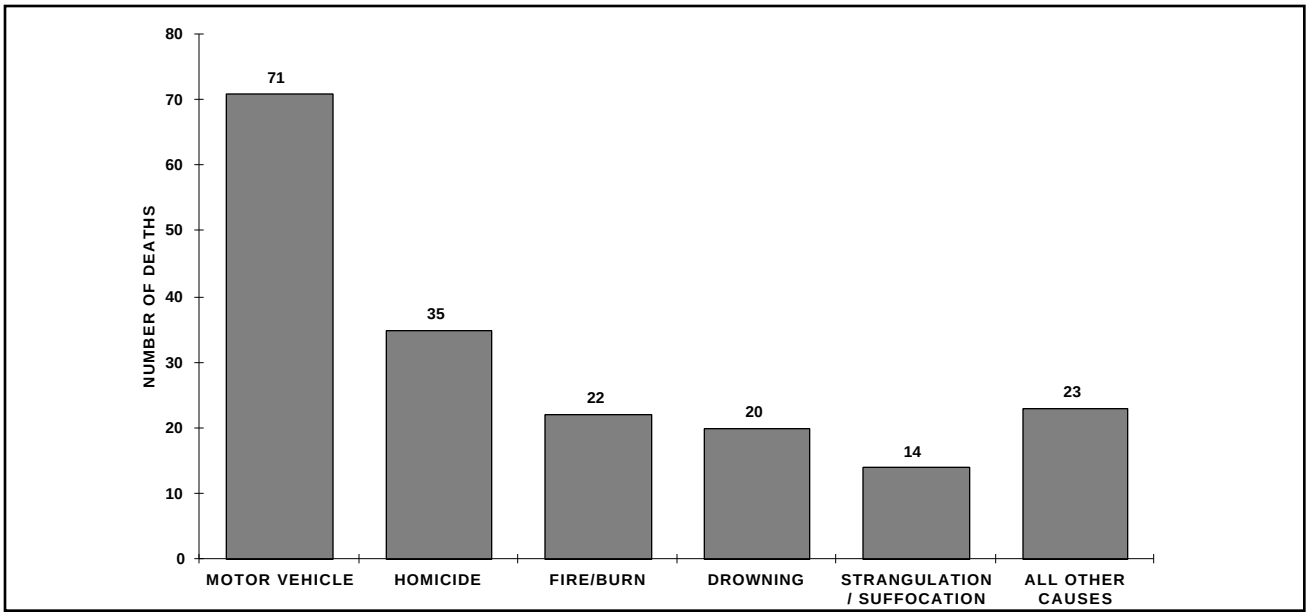


Figure 7. Leading Causes of Injury Deaths for Children Less Than 15 Years of Age in 1994



The SIDS rate (deaths per 1,000 live births) in 1994 was lower than in any of the previous seven years. In 1987, the SIDS rate was 1.7, and rose to 2.0 by 1991. The rate in 1992 and 1993 was 1.5, and in 1994, the SIDS rate declined to 1.2 (Figure 8).

Figure 8. SIDS Rate 1987-1994

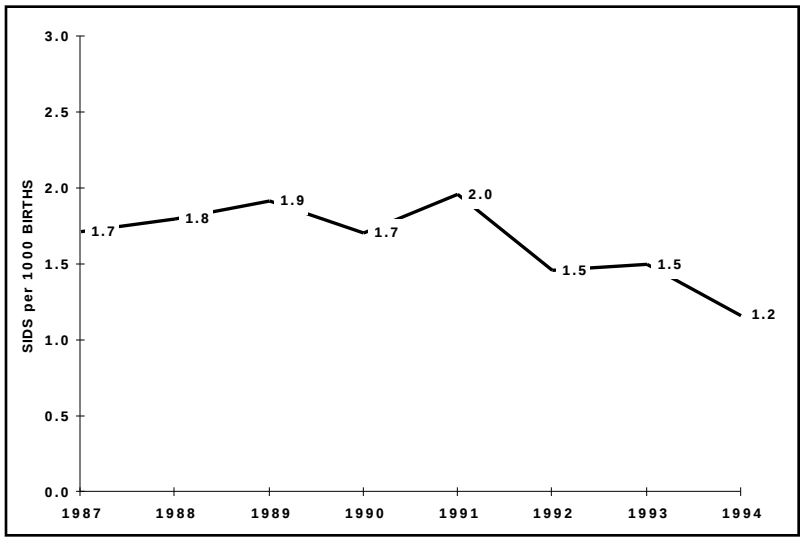
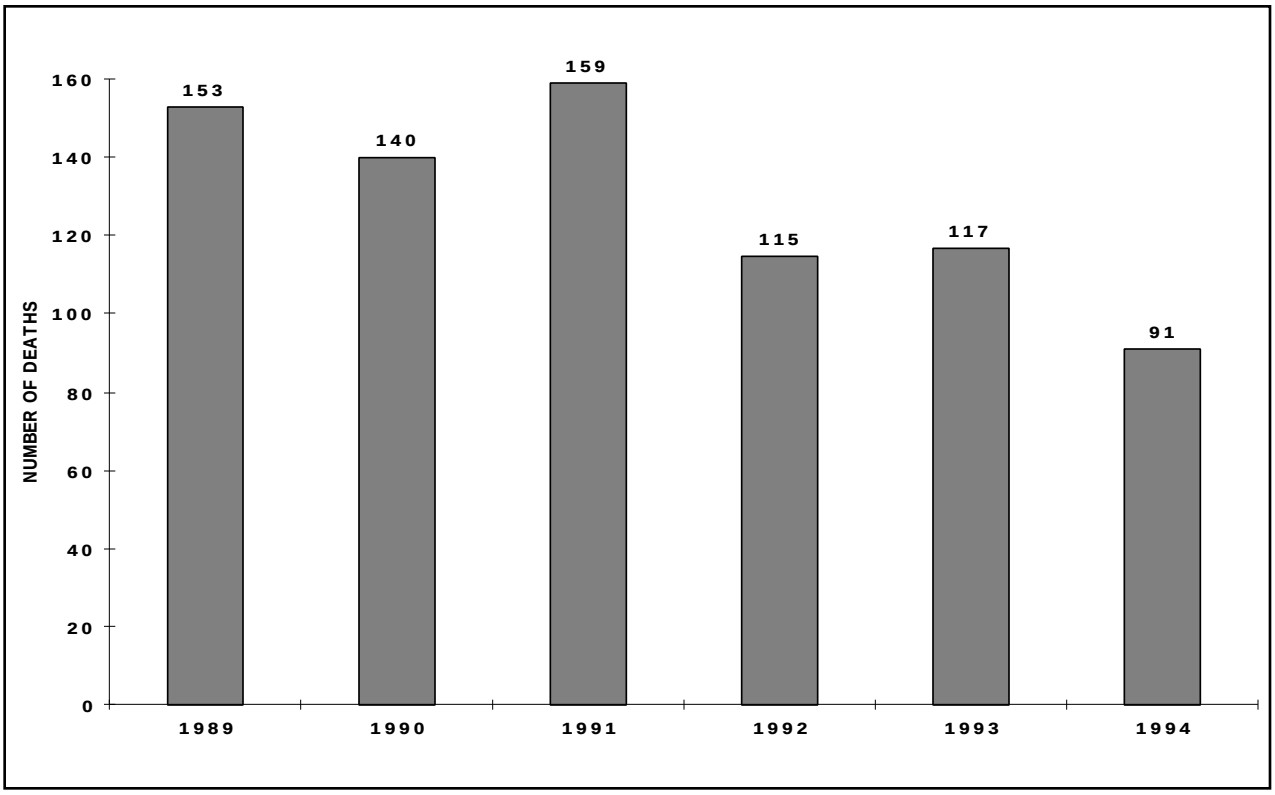


Figure 9. Missouri SIDS Deaths, 1989-1994



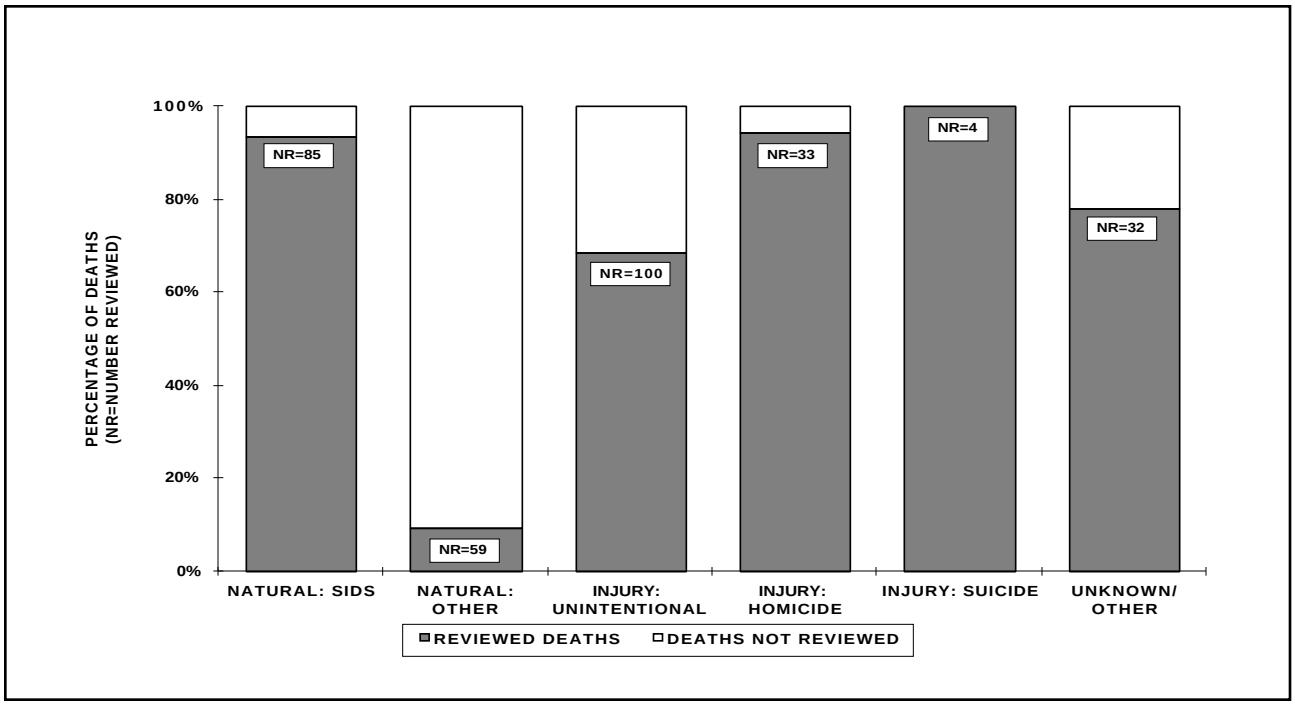
In the three year period 1989-1991, the average number of SIDS deaths per year was 151. In the three year period 1992-1994, the average number of SIDS deaths per year were 108, representing a 29% decrease over the three year period. (Figure 9).

Panel Reviewed Cases

After the initial investigation of a death, the coroner/medical examiner and the county panel chairperson decide whether the case meets the criteria for further review by the panel. These criteria include situations where the cause of death is unclear or the possibility exists that child abuse/neglect was involved. See Appendix 3 for a complete listing of review criteria.

The percentage of deaths reviewed by panels varied with the cause of death. (It should be noted that the cause of death may not be determined at the time of review.) As shown in Figure 10, 93% of SIDS deaths were reviewed, as were 9% of other (non-SIDS) natural-cause deaths. Among injury deaths 94% of homicides, 100% of suicides and 68% of unintentional injury deaths were reviewed. Seventy-eight percent of deaths with unknown or other causes were also reviewed.

Figure 10. Percentage of Deaths Reviewed by Panels



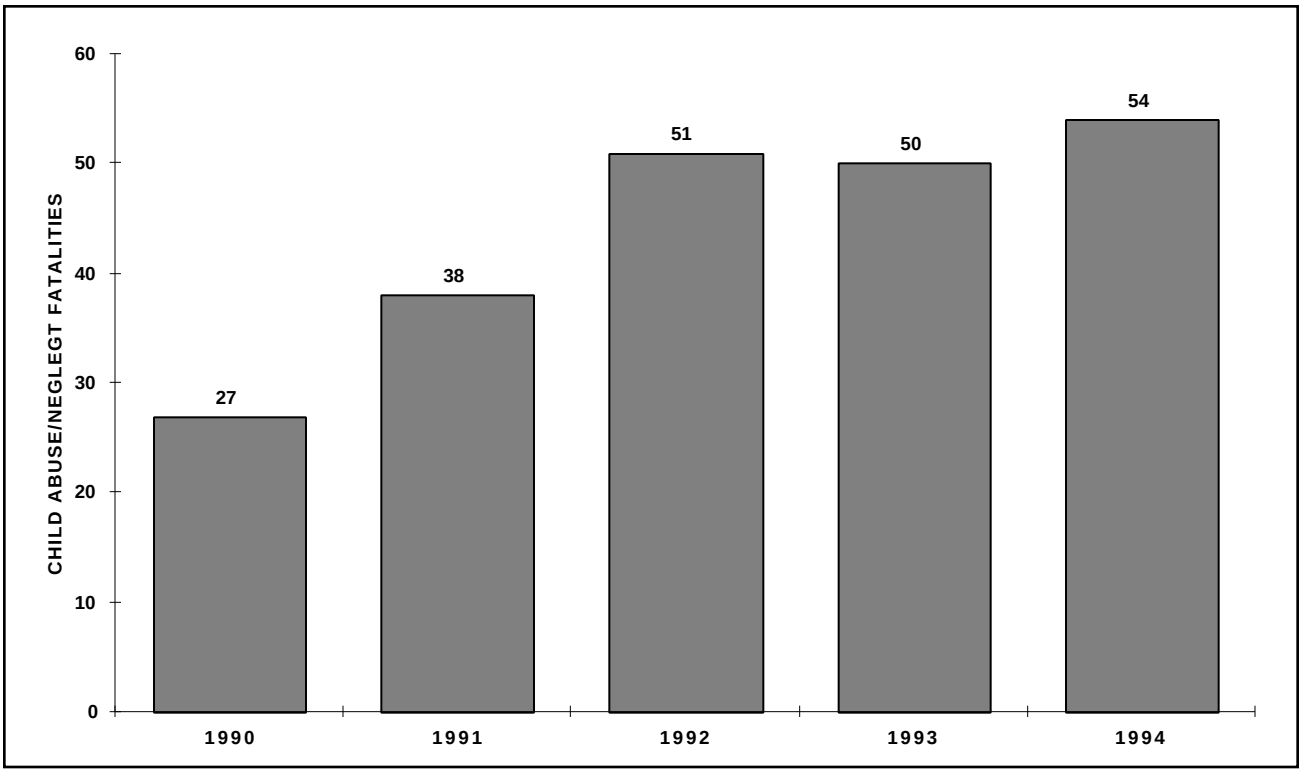
To address the volume and complexity of issues related to children's deaths in the major urban areas (Jackson County, St. Louis County and St. Louis City) individual urban models were created. While these panels do not have individual meetings for every death, they do have information gathering and distribution systems that meet the requirement for concurrent review.

Because the demands on the three urban panels are so great, the Division of Family Services provides full-time staffing to support their efforts. These positions, known as Urban Case Coordinators (UCC), were created with the sole purpose of assisting the panels in meeting program objectives. The UCCs coordinate community services and programs to benefit children and families. Their goal is to encourage the integration and coordination of needed services to reduce initial and repeat fatalities in the highest-risk settings.

Child Abuse/Neglect Deaths

The number of child abuse/neglect fatalities of children under the age of 18 confirmed through investigation by the Department of Social Services, Division of Family Services increased slightly in 1994 from the previous year (Figure 11). About 50 reported child fatalities have been found probable cause in each of the last three years. This is significantly more than the number of probable cause fatalities in 1990-1991.

Figure 11. Child Abuse/Neglect Fatalities Confirmed by the Division of Family Services* (Children Under Age 18)



*from the Missouri Department of Social Services 1994 Child Abuse and Neglect Annual Report

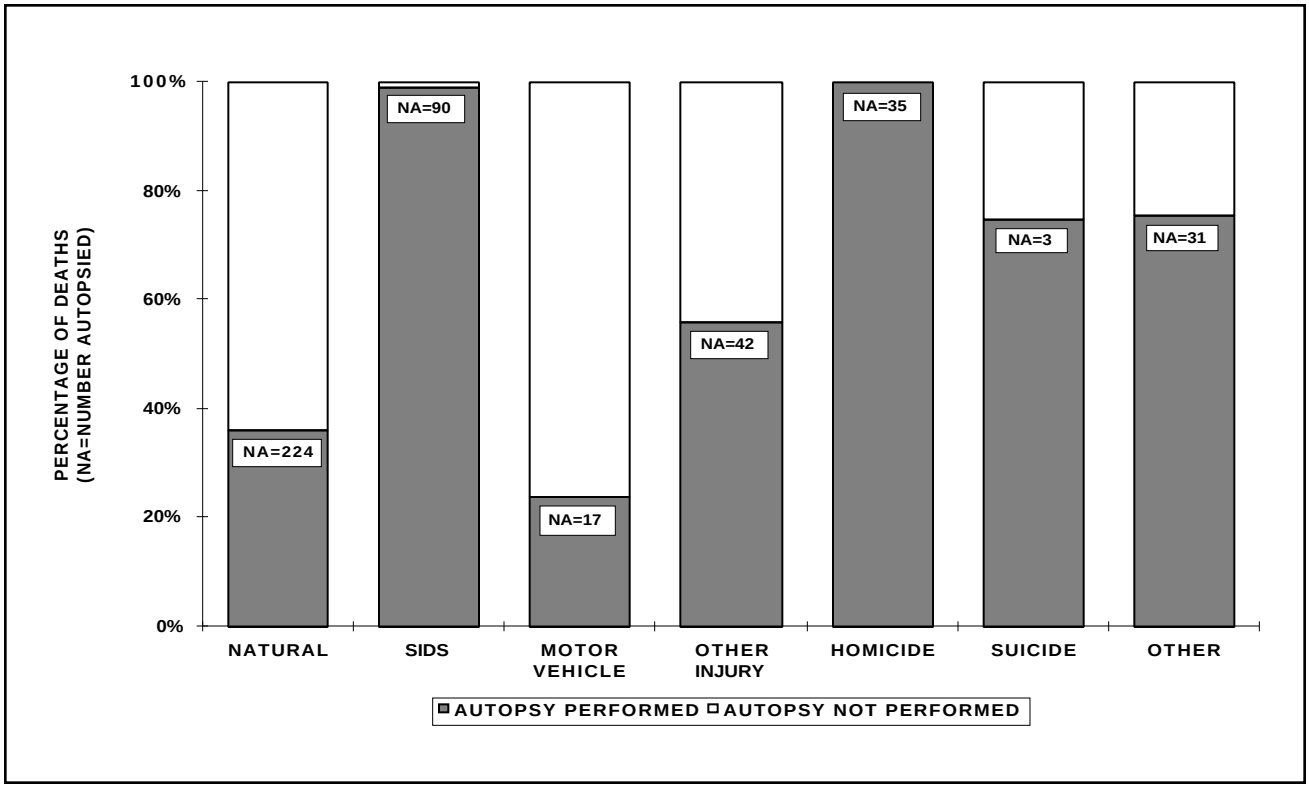
Autopsies

The autopsy is a critical component in accurately determining the cause of death. For example, diagnosing SIDS requires an autopsy to exclude other causes of death such as shaken infant syndrome. Legislation requires that an autopsy be performed for all children from one week to one year of age who die in a sudden, unexplained manner.

During 1994, autopsies were performed in 47% of all children's deaths and 77% of panel-reviewed deaths. As shown in Figure 10, autopsies were performed in 36% of natural deaths, 99% of SIDS deaths, 24% of motor vehicle deaths, 56% of other unintentional injury deaths,100% of homicides and 75% of suicides (Figure 12).

State general revenue funds have ensured that children who die will receive autopsies based on the need in each case.

Figure 12. Autopsy Rate for Children's Deaths 1994



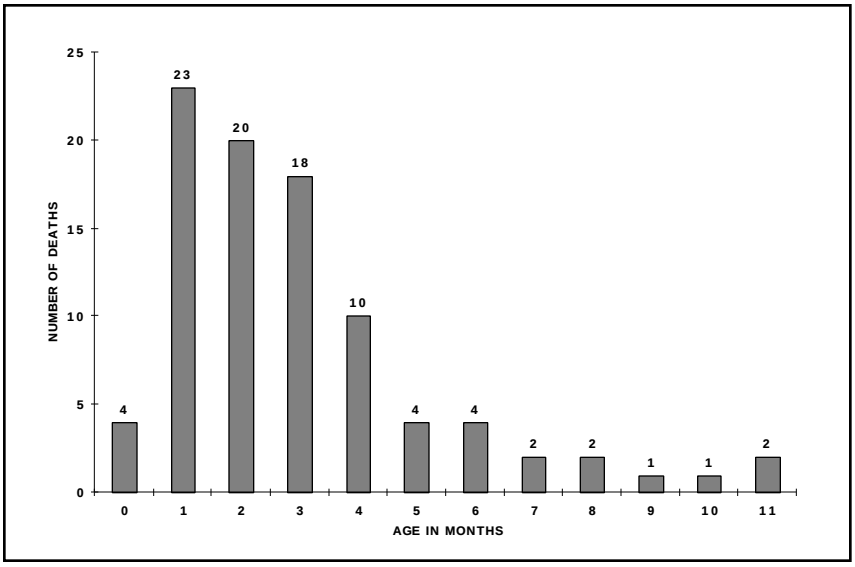
SIDS (Sudden Infant Death Syndrome)

SIDS was the cause of 91 deaths

of children less than 1 year of age in 1994,

representing 14% of all deaths in that age group.

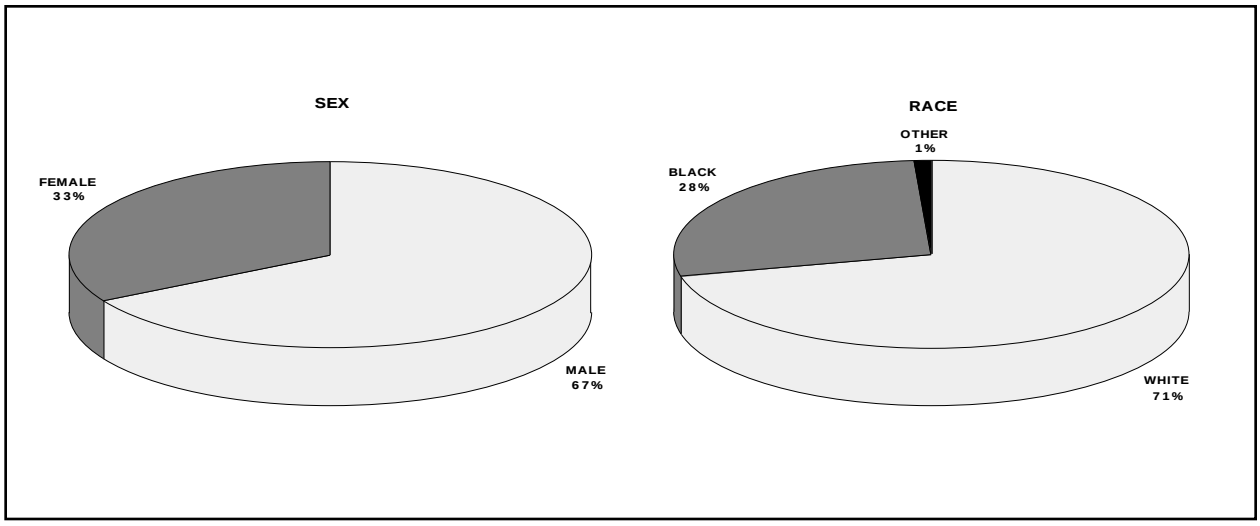
Figure 13. Age Distribution of SIDS Fatalities in 1994



• As shown in Figure 13, 82% of SIDS fatalities were children less than five months of age.

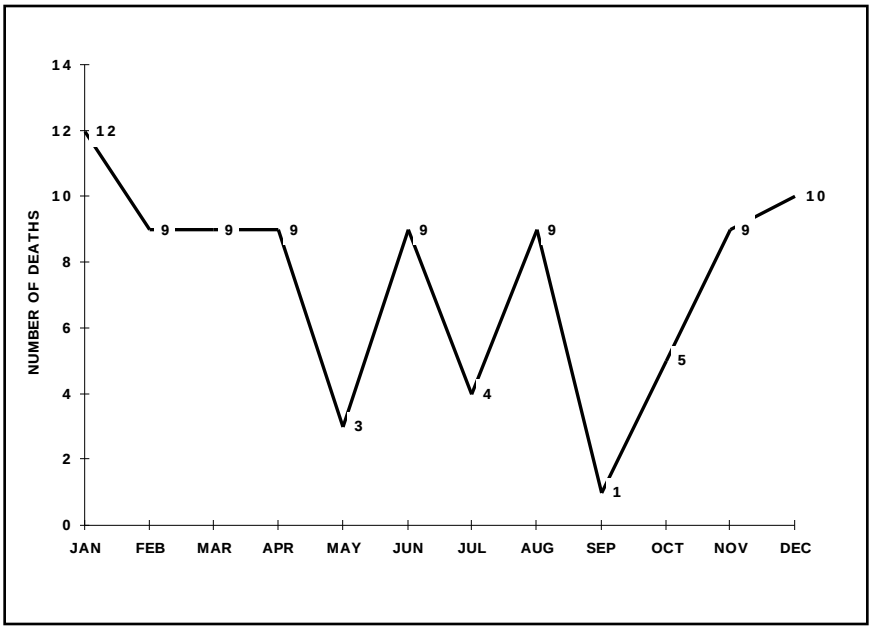
• Sixty-seven percent of SIDS fatalities were male and 71% were white children (Figure 14).

Figure 14. Sex and Race of SIDS Fatalities 1994



SIDS

Figure 15. SIDS Fatalities by Month in 1994

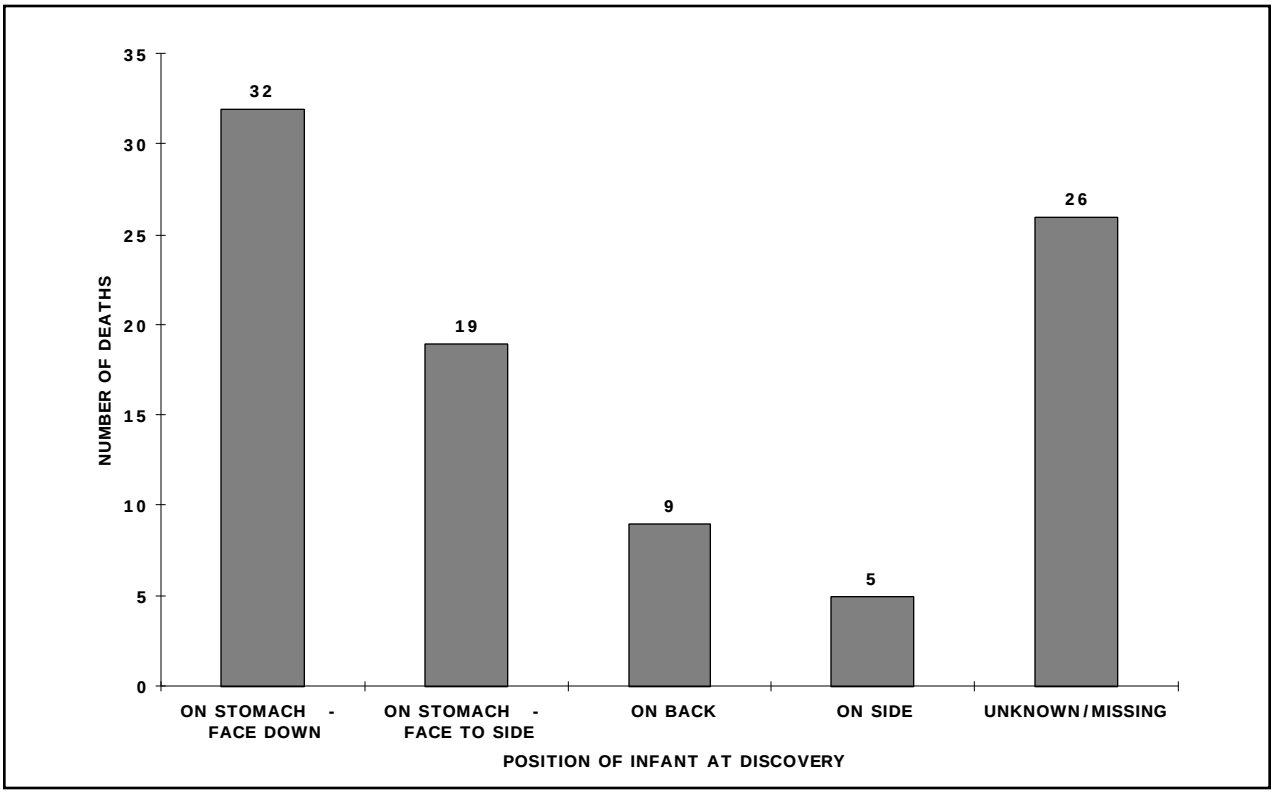


.

• The peak month for SIDS in 1994 was January with 12, followed by December with ten (Figure 15).

• Fifty-six percent of SIDS fatalities were positioned on their stomach at the time of discovery (Figure 16).

Figure 16. Position of Infant



Homicides

Homicide was the cause of 35 deaths

of children less than 15 years of age in 1994,

representing 18.9% of injury related deaths.

• As shown in Figure 17, 43% of homicides were children less than one year of age. The next largest group was one through four year-olds with 34% of the total.

• Forty-nine percent of homicides were male and 63% were white children (Figure 18).

Figure 17. Age Distribution of Homicides in 1994

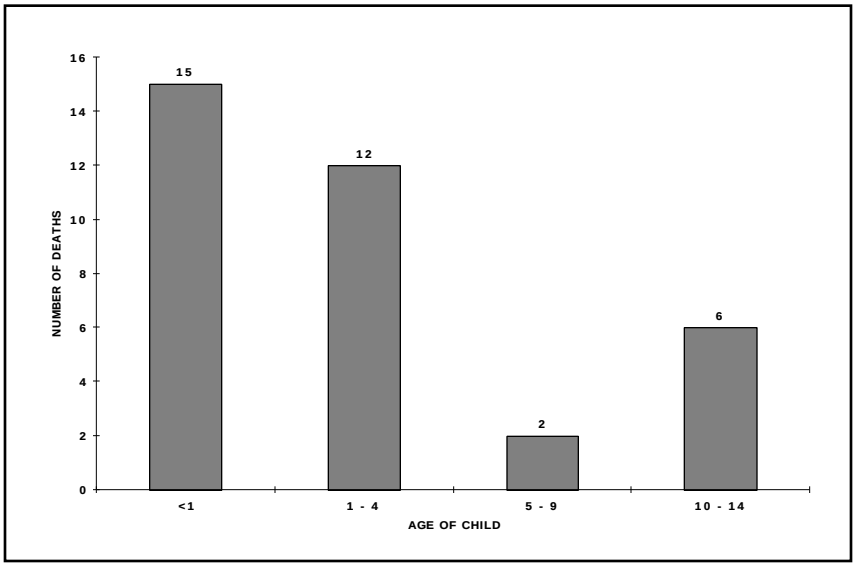
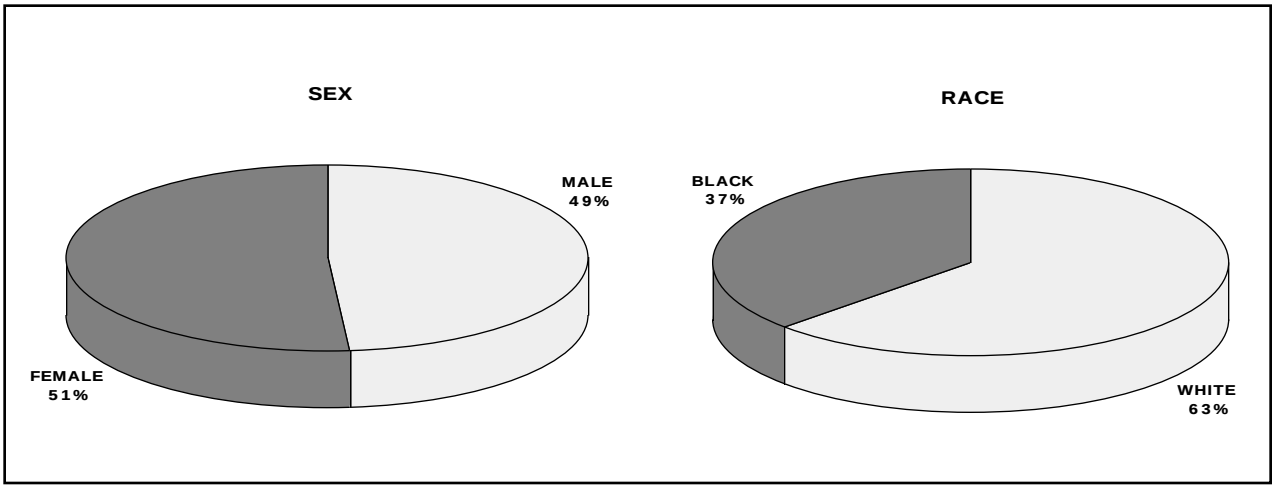
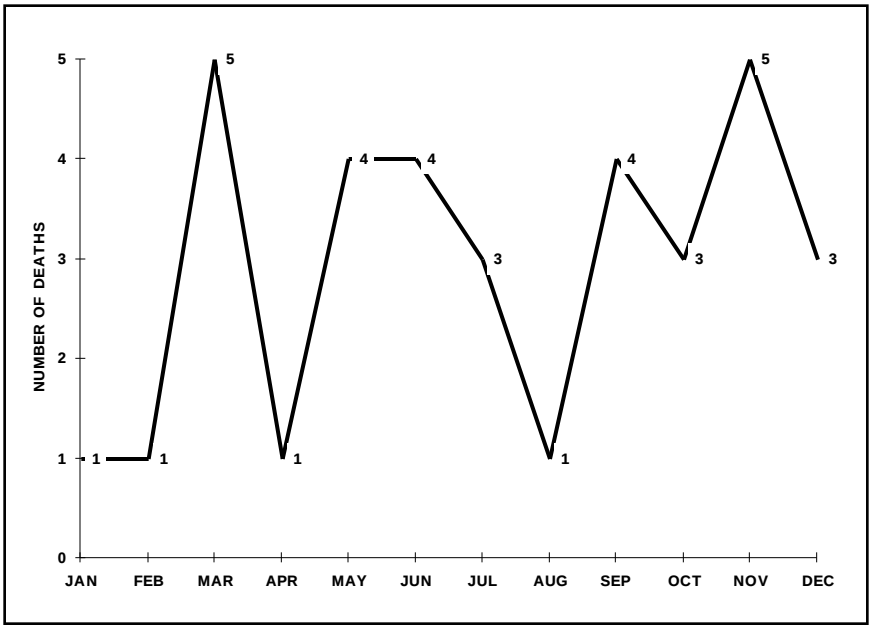


Figure 18. Sex and Race of Homicides in 1994



Homicides

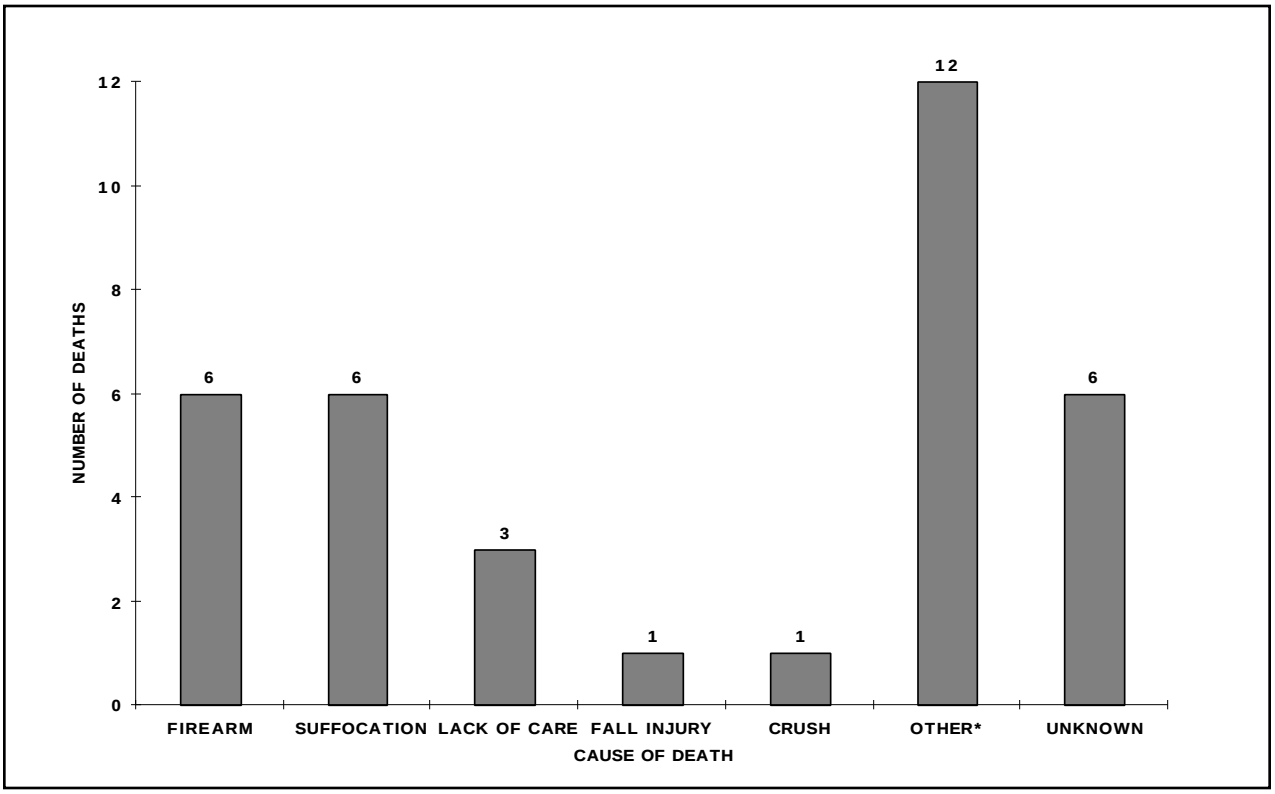
Figure 19. Homicides by Month in 1994



• The peak months for homicides in 1994 were March and November with five, followed by May, June and September with four each (Figure 19).

• Firearm and suffocation/strangulation injuries were the most common known causes of homicides in 1994 (Figure 20).

Figure 20. Causes of Death in 1994 Homicides



***** Other includes shaken, struck, thrown, cut/stabbed, kicked and blunt trauma.

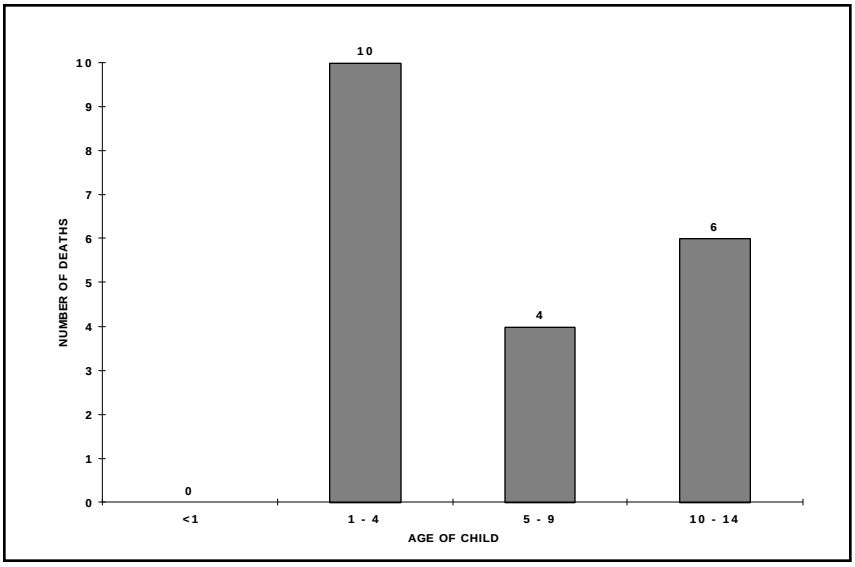
Drownings

Drowning was the cause of 20 deaths

of children less than 15 years of age in 1994,

representing 10.8% of injury related deaths.

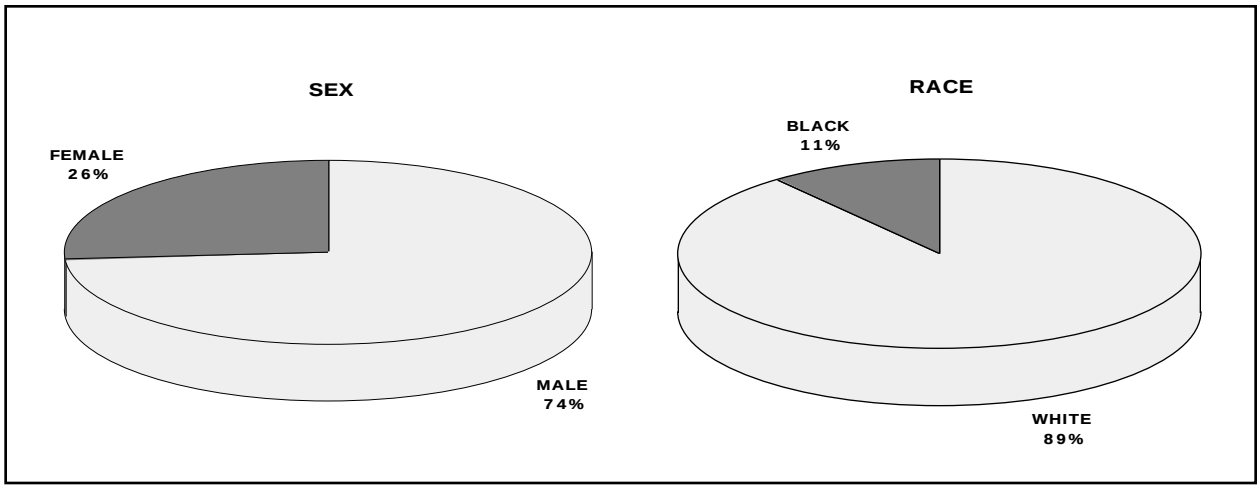
Figure 21. Age Distribution of Drowning Deaths in 1994



• As shown in Figure 21, 50% of drowning deaths were children less than five years of age.

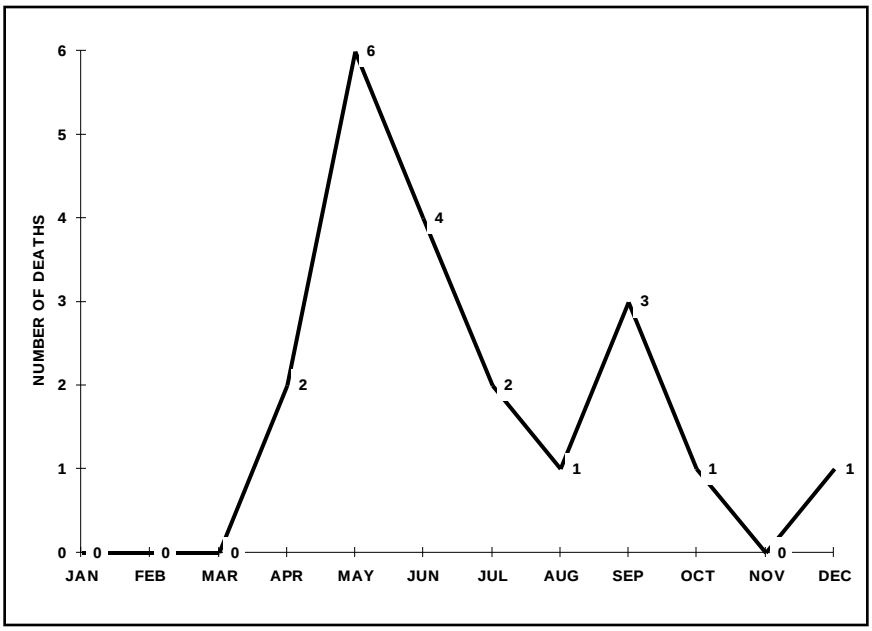
• Seventy-four percent of drowning deaths were male and 89% were white children (Figure 22).

Figure 22. Sex and Race of Drowning Deaths in 1994



Drownings

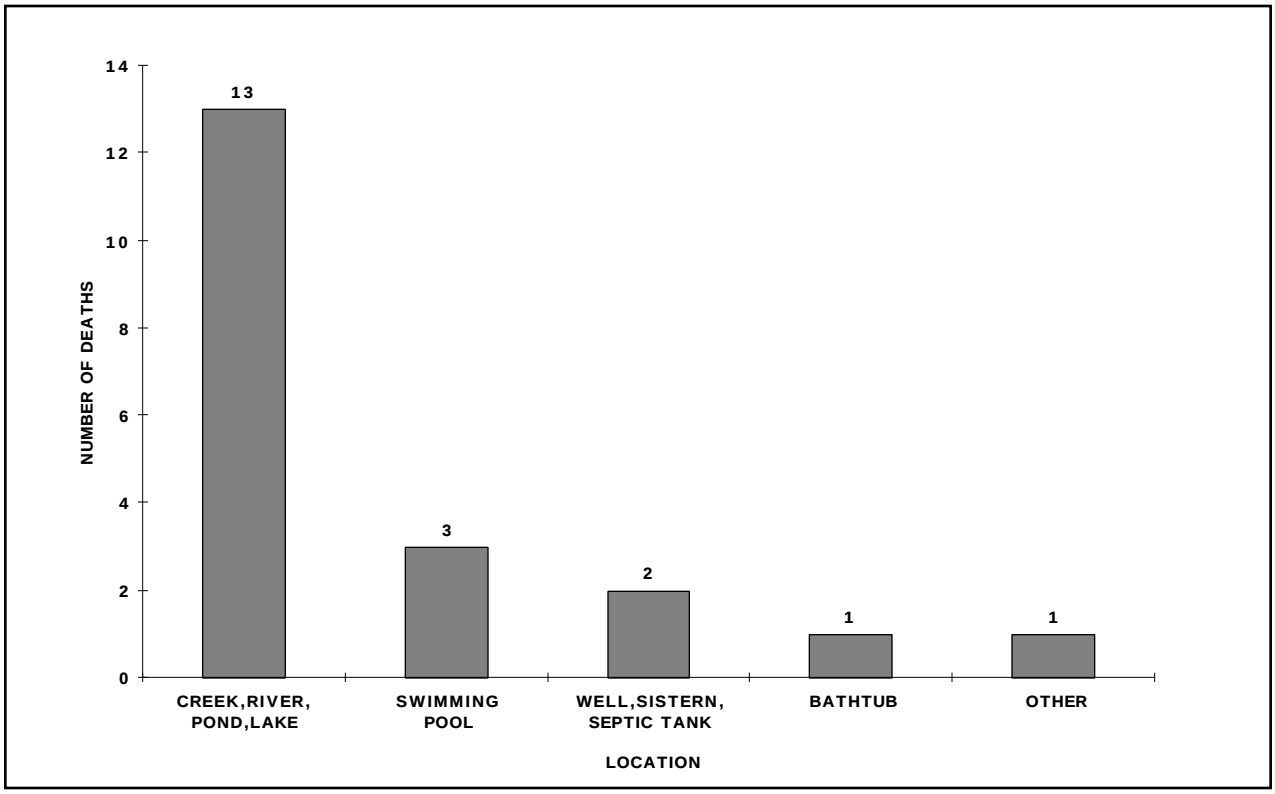
Figure 23. Drownings by Month in 1994



• The peak month for drownings in 1994 was May with six, followed by June with four and September with three (Figure 23).

• Natural bodies of water, followed by swimminig pools, were the most common locations of drownings in 1994 (Figure 24).

Figure 24. Location of Drownings in 1994



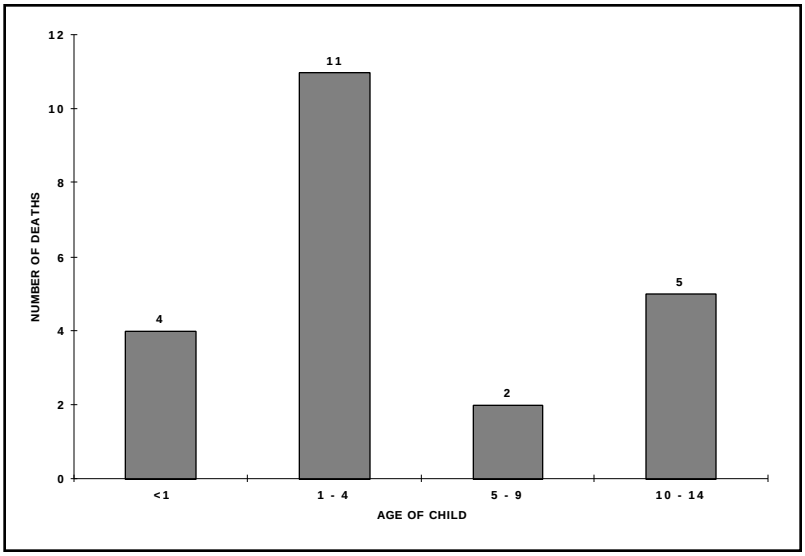
Fire/Burn Injuries

Fire/Burn injuries were the cause of 22 deaths

of children less than 15 years of age in 1994,

representing 11.9% of injury related deaths.

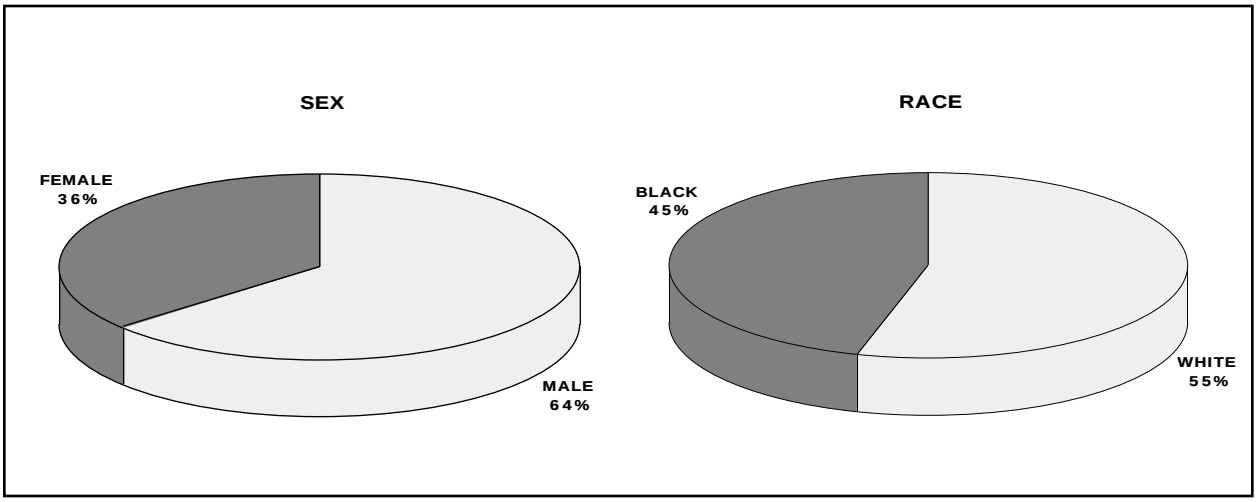
Figure 25. Age Distribution of Fire/Burn Deaths in 1994



• As shown in Figure 25, 68% of fire/burn deaths were children less than five years of age.

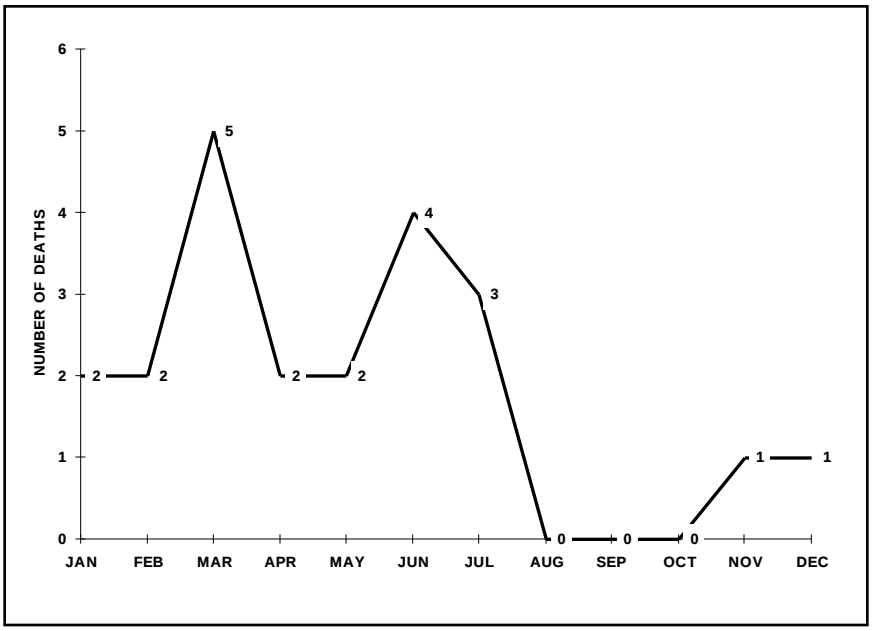
• Sixty-four percent of fire/burn deaths were male and 55% were white children (Figure 26).

Figure 26. Sex and Race of Fire/Burn Deaths in 1994



Fire/Burn Injuries

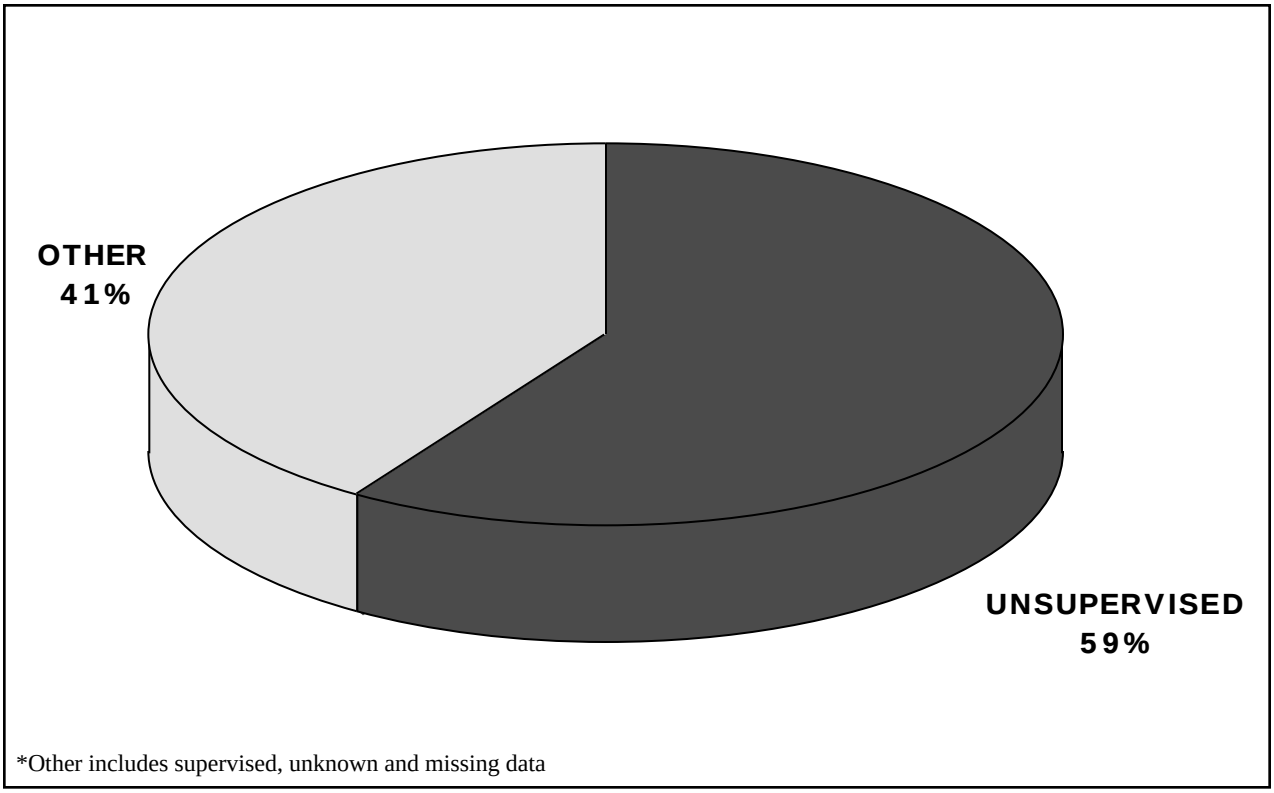
Figure 27. Fire/Burn Deaths by Month in 1994



• The peak month for fire/ burn deaths in 1994 was March with five, followed by June with four and July with three (Figure 27).

• Fifty-nine percent of fire/burn deaths were unsupervised at the time of injury (Figure 28).

Figure 28. Fire/Burn Deaths by Lack of Supervision in 1994*



*Other includes supervised, unknown and missing data

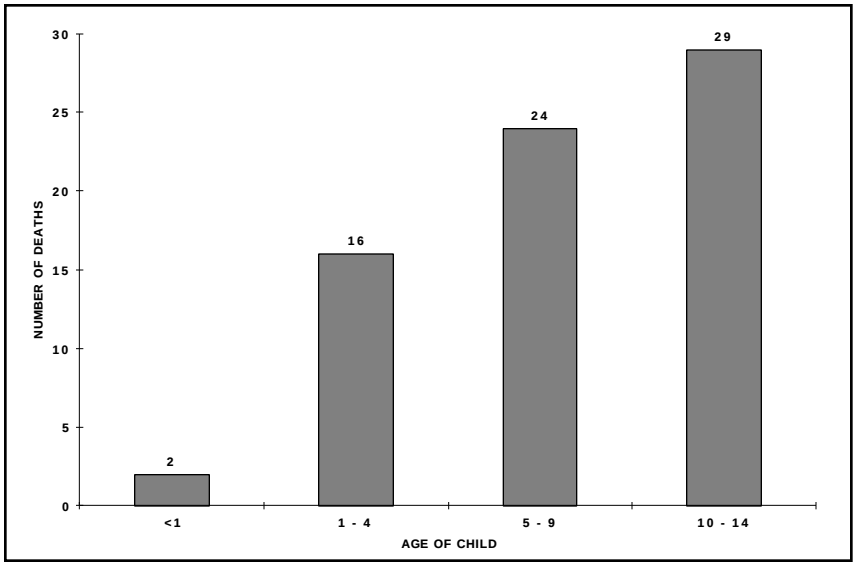
Motor Vehicle Injuries

Motor vehicle injuries were the cause of 71 deaths

of children less than 15 years of age in 1994,

representing 38.4% of injury related deaths.

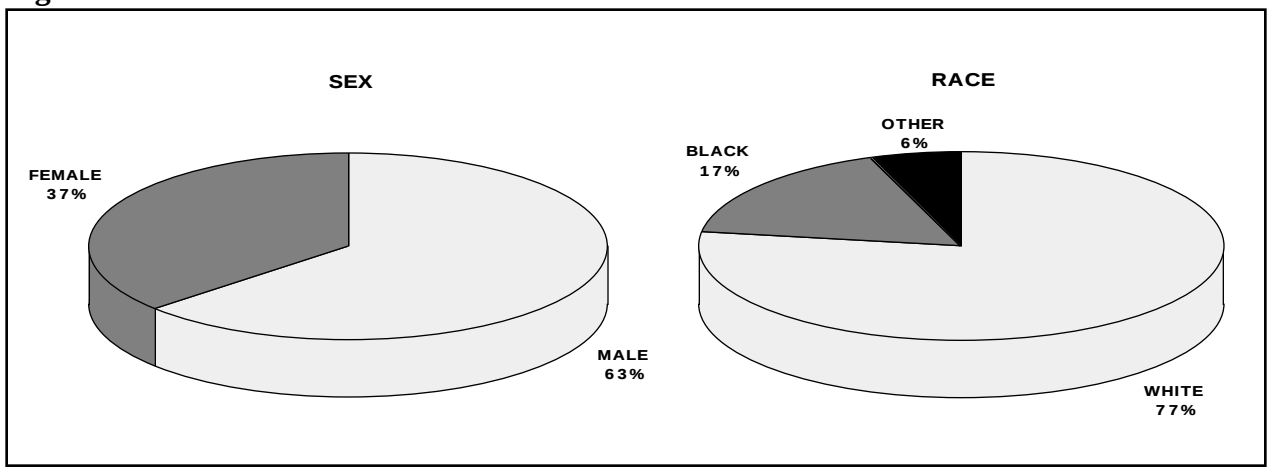
Figure 29. Age Distribution of Motor Vehicle Deaths in 1994



• As shown in Figure 29, 75% of motor vehicle deaths were children greater than four years of age.

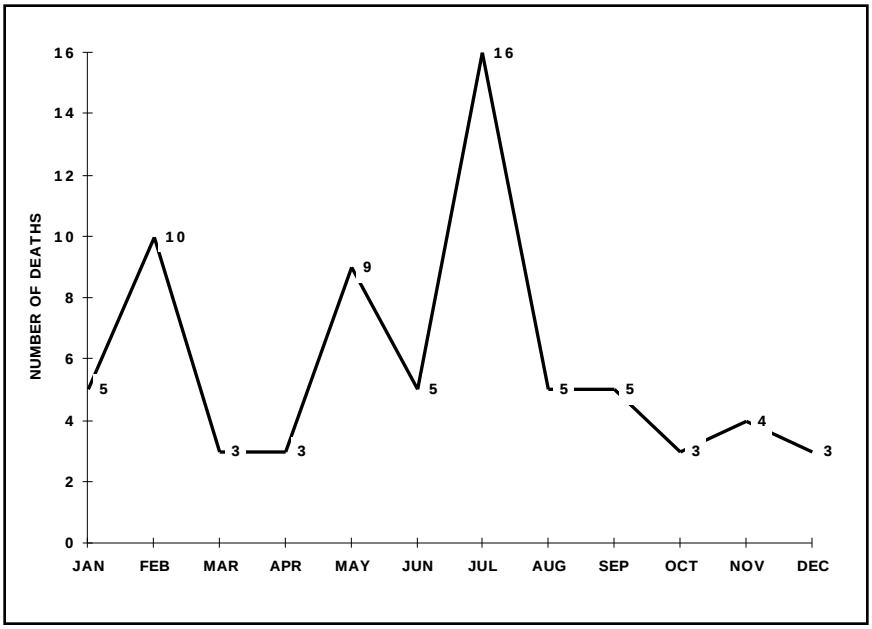
• Sixty-three percent of motor vehicle deaths were male and 77% were white children (Figure 30).

Figure 30. Sex and Race of Motor Vehicle Deaths in 1994



Motor Vehicle Injuries

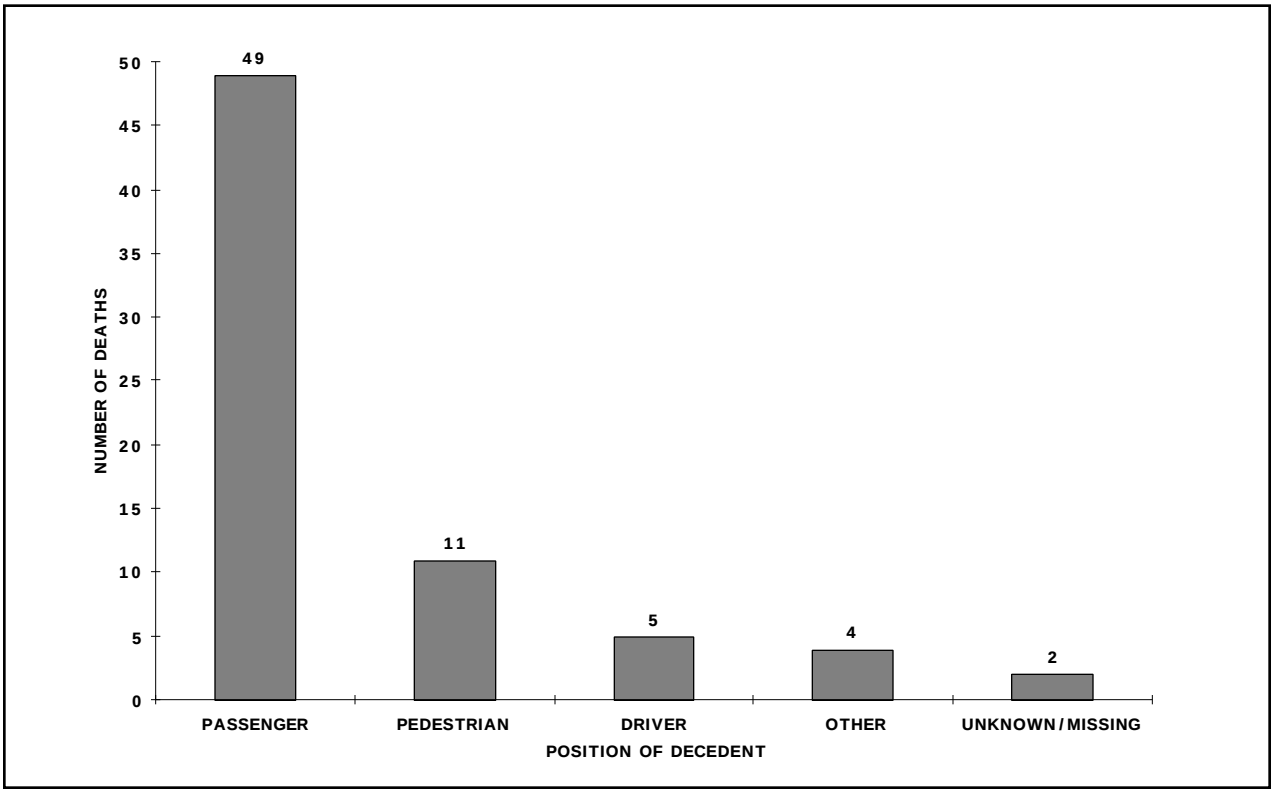
Figure 31. Motor Vehicle Deaths by Month in 1994



• The peak month for motor vehicle deaths in 1994 was July with 16, followed by February with 10 and May with nine (Figure 31).

• Sixty-nine percent of motor vehicle deaths were passengers and 16% were pedestrians at the time of injury (Figure 32).
• Five deaths were the result of under-age drivers in cars (3) and operators of off-road vehicles (2).

Figure 32. Motor Vehicle Deaths by Position at Time of Injury in 1994



Unintentional Strangulation/Suffocation

Strangulation/Suffocation was the cause of 14* deaths

of children less than 15 years of age in 1994,

representing 7.6% of injury-related deaths.

• As shown in Figure 33, 86% of strangulation/suffocation deaths were children less than one year of age.

• Seventy-one percent of strangulation/suffocation deaths were male and 93% were white children (Figure 34).

Figure 33. Age Distribution of Strangulation/Suffocation Deaths in 1994

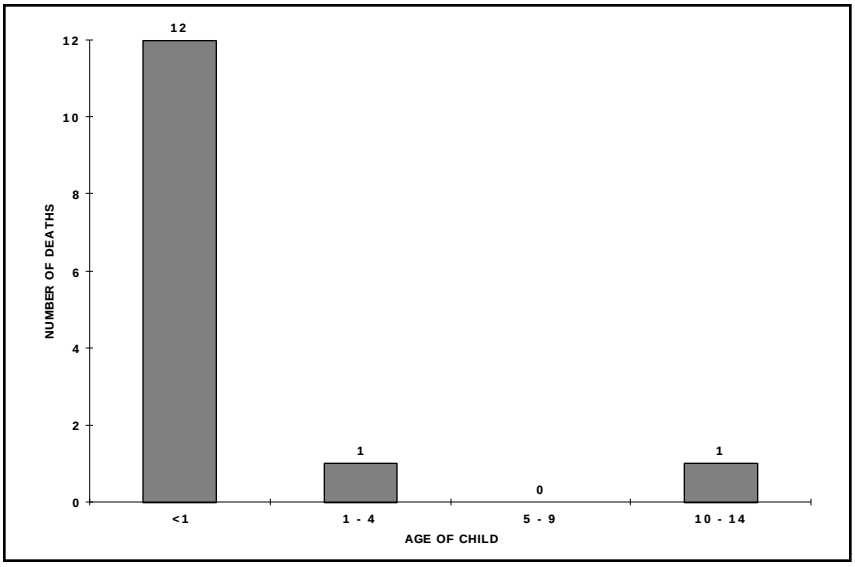
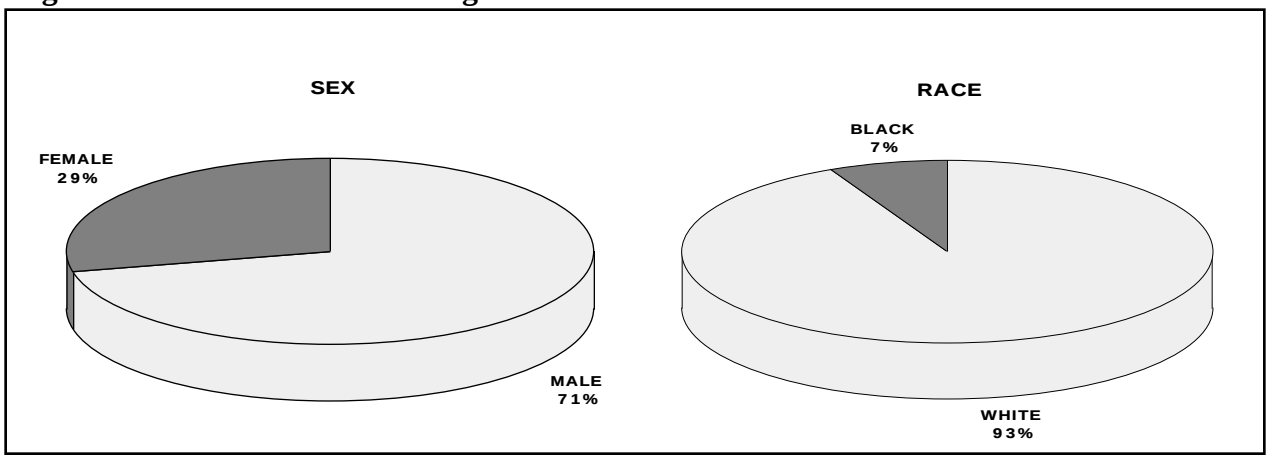


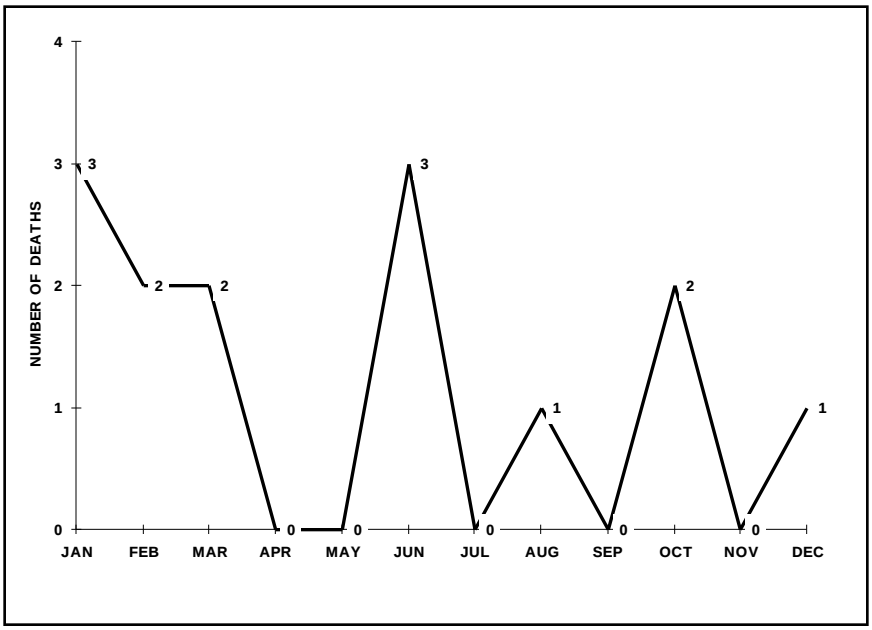
Figure 34. Sex and Race of Strangulation/Suffocation Deaths in 1994



*Unintentional deaths only. Eight additional strangulation/suffocations were recorded - six homicides and two suicides.

Unintentional Strangulation/Suffocation

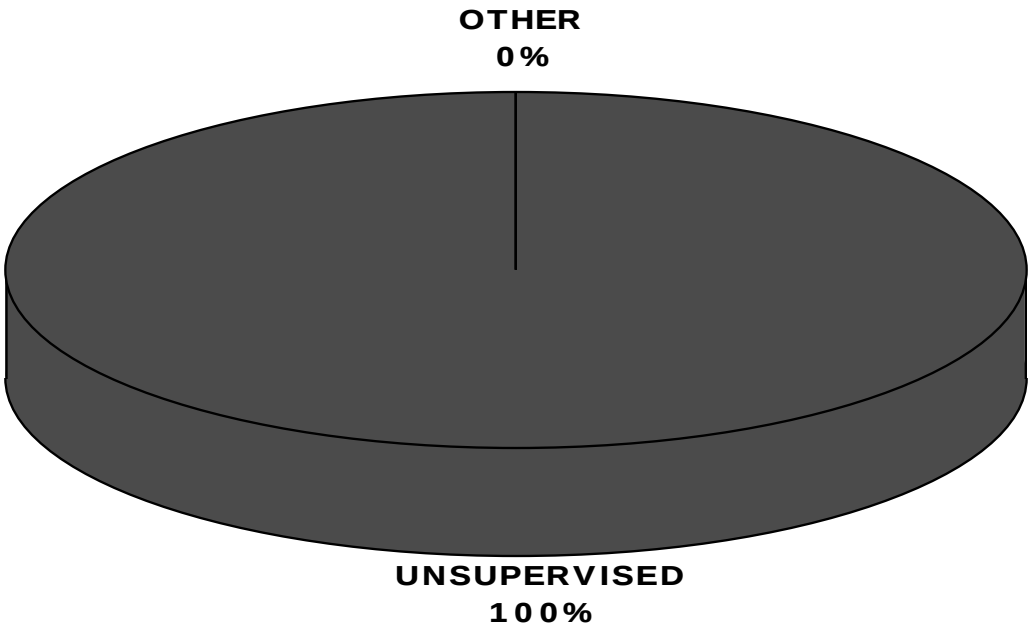
Figure 35. Strangulation/Suffocation Deaths by Month in 1994



• The peak months for strangulation/suffocation deaths in 1994 were January and June with three, followed by February, March and October with two each (Figure 35).

• One hundred percent of strangulation/suffocation deaths were unsupervised at the time of injury (Figure 36).

Figure 36. Strangulation/Suffocation Deaths by Lack of Supervision in 1994



*Other includes supervised, unknown and missing data

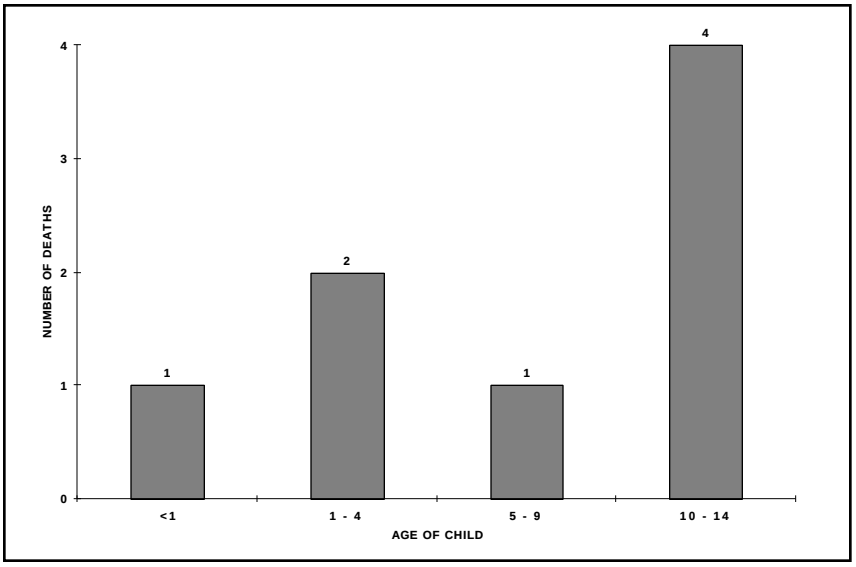
Unintentional Firearm Injuries

Firearm injuries were the cause of 8* deaths

of children less than 15 years of age in 1994,

representing 4.3% of injury related deaths.

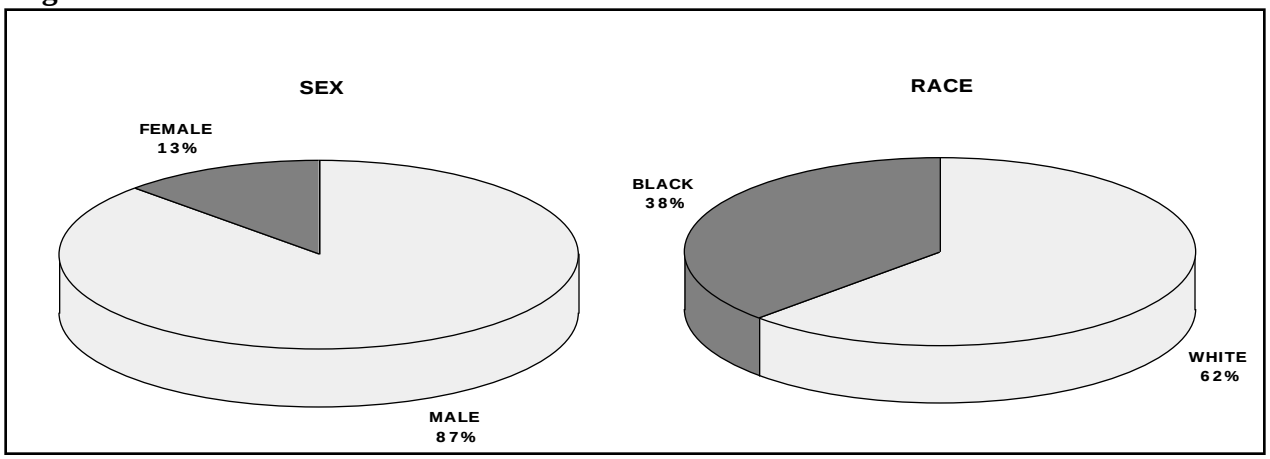
Figure 37. Age Distribution of Firearm Deaths in 1994



• As shown in Figure 37, 63% of firearm deaths were children greater than four years of age.

• Eighty-seven percent of firearm deaths were male and 62% were white children (Figure 38).

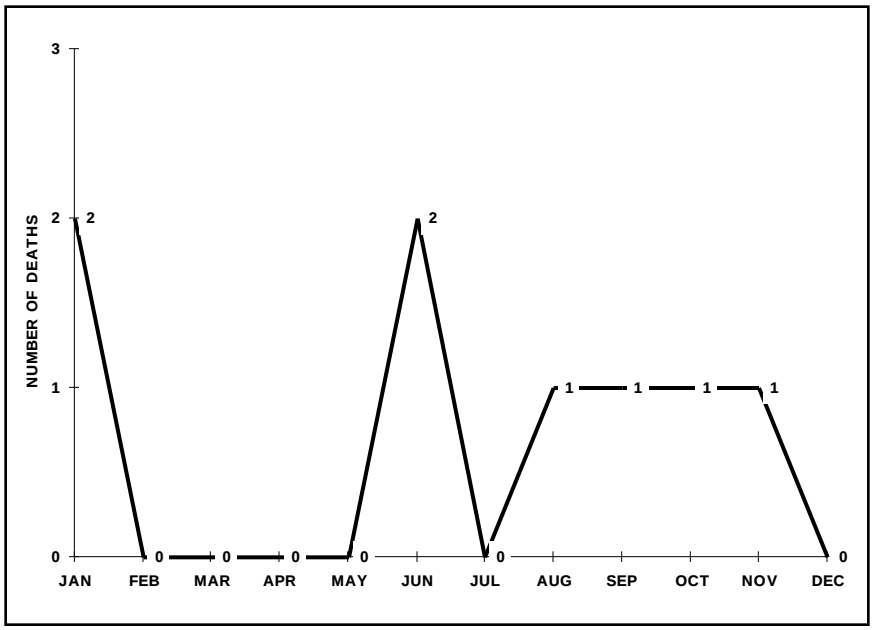
Figure 38. Sex and Race of Firearm Deaths in 1994



*Unintentional deaths only. Eight additional firearm deaths were recorded - six homicides and two suicides.

Unintentional Firearm Injuries

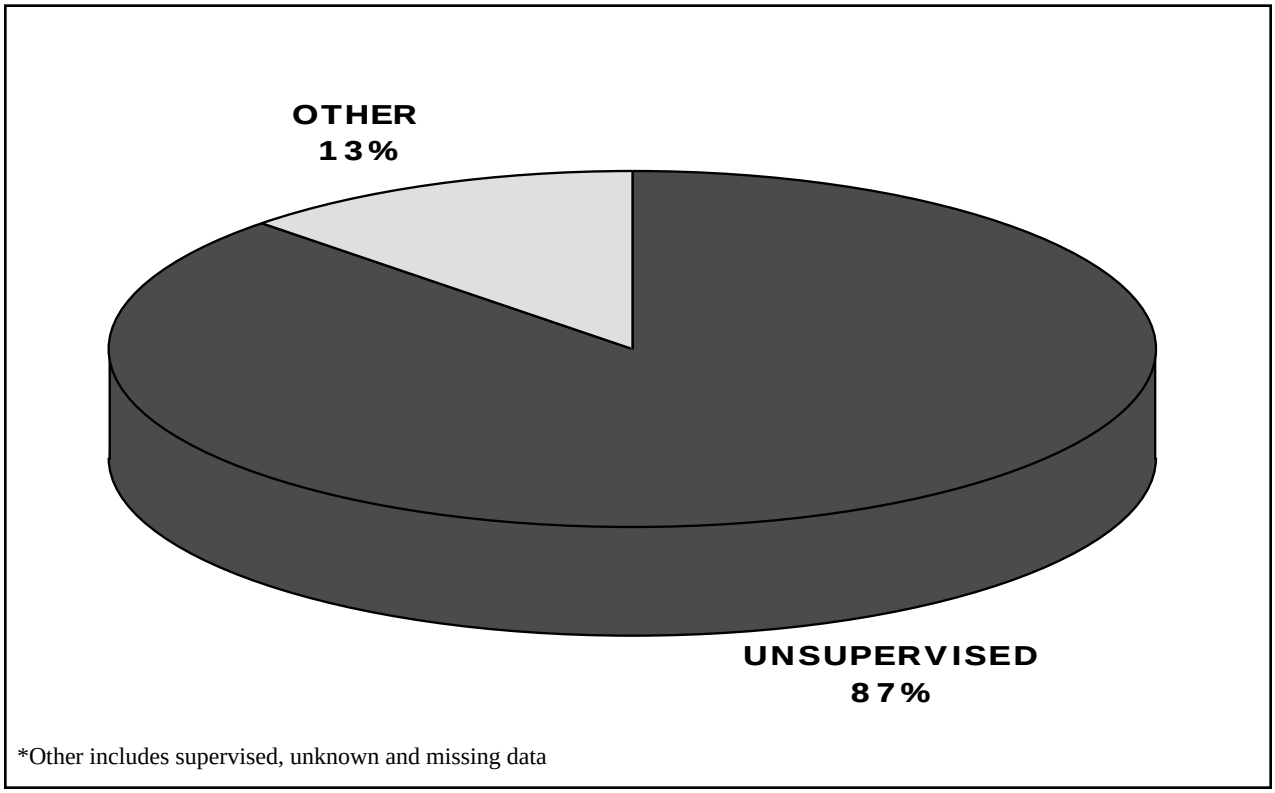
Figure 39. Firearm Deaths by Month in 1994



• The peak months for firearm deaths in 1994 were January and June with two, followed by August, September, October and November with one each (Figure 39).

• Eighty-seven percent of firearm deaths were unsupervised at the time of injury (Figure 40).

Figure 40. Firearm Deaths by Lack of Supervision in 1994



*Other includes supervised, unknown and missing data

CHILD FATALITY REVIEW PROGRAM OVERVIEW AND DATABASE DEFINITIONS

Due to the complexity of data from the Child Fatality Review Program, a brief introduction to the program and definitions of key variables and concepts is presented here. We hope this will facilitate requests for data and interpretation of data from the program's database.

Program Overview

Concern about the possible under-reporting of Missouri child deaths related to abuse and neglect led in 1991 to passage of House Bill 185, which resulted in creation of the state Child Fatality Review Program (CFRP). The stated goals of the project are:

- Implement a multi-disciplinary approach to investigating child fatalities;
- Improve outcomes of investigations of child fatalities;
- Improve accuracy in reporting causes of child fatalities; and,
- Guide prevention efforts of child injuries and fatalities.

The Department of Social Services and the State Technical Assistance Team (STAT) within that department, were given primary responsibility for implementing the legislation. STAT organized a state advisory panel and a child fatality review panel in each county and the City of St. Louis to review deaths of children from birth through age 14 years. Each child death is reviewed by the coroner or medical examiner and the county CFRP chairperson, and the findings of that review are reported on the Coroner/ Medical Examiner Data Report (Form 1). Deaths resulting from unexplained causes, non-motor vehicle injuries or suspected abuse or neglect are of particular concern; these are referred to the full CFRP panel for review.

Each CFRP panel is multi-disciplinary, being composed of the coroner or medical examiner, public health nurse or physician, emergency medical services, prosecuting attorney, law enforcement officer, Division of Family Services representative, juvenile officer and, as appropriate, others such as educators or fire investigators. Panel members have been trained in skills relevant to investigating child deaths. Results of the review by the full panel are reported on the Child Fatality Review Panel Data Report (Form 2). In addition to conclusions about the cause of death, information about criminal proceedings and findings of child abuse or neglect by the Department of Social Services are reported on Data Form 2.

Missouri Incidence Deaths

"Missouri incidence death" refers to just those child deaths included in the CFRP program. Missouri incidence deaths, defined further below, are those deaths of children 0-14 years of age which occur within the state of Missouri, except that deaths resulting from injury or other causes which occur outside the state are excluded. Though by law all child deaths occurring in Missouri are reported, the Missouri-incidence deaths are of primary interest, and the most complete data are collected on these cases. The reader should note that these cases are not the same as Missouri-resident deaths or Missouri-recorded deaths, terms used frequently in conjunction with mortality data.

CFRP Database

Beginning with 1992 childhood deaths, a child fatality surveillance data system has been collecting, analyzing and reporting data on child fatalities. This system uses data from the Child Fatality Review Program (Data Form 1 and Data Form 2) as well as from the death and birth certificate files, data on Medicaid eligibility and data on substantiated child abuse and neglect deaths from the Department of Social Services. Use of diverse sources produces more complete information on each childhood fatality.

Forms 1 and 2 were revised beginning in 1994. Several items were changed in format or in content to better request the needed data. For example, the new Form 2 requests the CA/N Hotline incidence number of possible abuse or neglect cases to facilitate obtaining data from the state DFS office, rather than request such data from the field personnel. Several new data questions were added such as identity of the child's mother, more information about witnesses of injuries and persons who inflicted injuries resulting in death.

Causes of Death

Both the mortality file and CFRP reports include data on cause of death, but from slightly different perspectives. Mortality file deaths are coded in terms of the ICD-9 system, which requires interpretation of injury deaths in terms of whether or not the injury was intended. The CFRP classification system attempts to provide additional information on the behaviors which contribute to child death and does not require judgments about intentionality.

A third coding system, the Behavior Codes (B-Code) system, is derived by computer from the CFRP report data. This system was developed under the leadership of Dr. Bernard Ewigman of the University of Missouri Medical Center. It classifies child-injury deaths according to behaviors which inflict injuries to children, behaviors which fail to meet basic needs of dependent children and behaviors which allow inappropriate exposure of children to hazardous objects or situations. Use of the B-code is expected to provide information, heretofore unavailable, on the specific behaviors and circumstances which contribute to child injury deaths. The B-code classification system is still being tested for reliability.

The ICD-9 classification of cause of death is encouraged for most purposes, both because it is more widely known and used and because the CFRP system provides limited information on homicides and intentional injuries. CFRP data will be most useful when information about behaviors contributing to cause of death is needed and when the focus is on behaviors rather than on intent. The B-code system, when in more general use, can provide a useful system for describing and numerically coding behaviors which contribute to child deaths. When requesting data from the CFRP database, any data not identifying specific individuals may be requested. The following definitions are intended to facilitate such requests.

Definitions of Important Terms and Variables

Certified Death:

Death included in the MCHS mortality file, reported by death certificate.

Missouri Incidence Death:

Death within Missouri of a child younger than 15 years. On the basis of data from the CFRP Data Form 1 or Data Form 2, one of the following is true:

- The child died as a result of an injury which occurred in Missouri.
- The child died as a result of a natural (non-injury) cause which occurred, or is assumed to have occurred, within Missouri. (This excludes deaths due to illness or other natural cause which occurred outside Missouri; e.g., at a non-Missouri residence.)
- The child was born in Missouri and died as a newborn (within ten days of birth) without having left the state. (Such children are included regardless of the assumed place of occurrence of the cause of death or of the residence of the child or the child's family.)

Missouri incidence is determined by use of data reported on Data Form 1, and no death is considered a Missouri-incidence death until Data Form 1 has been received.

CFRP Cause of Death:

Cause of death as reported on CFRP Data Forms 1 and 2. The forms include a category for natural cause, which specifies malnutrition/dehydration, delayed medical care, apparent lack of supervision and known illness (which includes congenital anomalies and perinatal conditions), Sudden Infant Death Syndrome (SIDS), sudden unexplained death (as defined elsewhere) and injuries classified by the type of agent or force which caused the injury (i.e.; vehicular, drowning, firearm, fall, poisoning). The CFRP classification provides no indication of whether the injury was intentional; thus, homicide is not included as a cause in this system. The CFRP does provide for an indication of whether or not the injury was inflicted; that is, whether it occurred as a result of the action of another person, without regard to intent or purpose of the action. If the case is referred to the CFRP panel for review, Data Form 2 is completed to report the findings of the panel. The Data Form 2 report includes information on DFS findings regarding possible child abuse or neglect and information related to criminal proceedings.

Mortality File Cause of Death:

The Mortality File lists cause of death as reported by ICD-9 code on Missouri death certificates. The ICD-9 coding classification system includes natural causes such as various diseases, congenital anomalies, perinatal conditions and certain ill-defined conditions (which includes SIDS). The injury classification includes those identified as "accidents" (unintentional), those considered intentional (homicide, suicide) and those with undetermined intent. Injury deaths are further classified by the type of agent or force which caused the injury (i.e.; motor vehicle crash, firearm, poisoning, burn, fall, drowning).

Mortality File Manner of Death:

Cause of death reported in mortality file and formatted to conform to "Manner of Death" variable in the death certificate. This includes six categories based on the ICD-9 code: Natural; Accident (unintentional injury); Suicide; Homicide; Undetermined and Pending Investigation.

Sudden Infant Death Syndrome (SIDS):

Sudden death of an infant under one year of age which remains unexplained after a thorough case investigation, including performance of a complete autopsy, examination of the death scene, and review of the clinical history.

- Mortality File SIDS: Death by SIDS, as defined operationally by being reported in the mortality file associated with the ICD-9 code 7980.
- CFRP SIDS: Death by SIDS, as defined operationally by being reported in the CFRP file, from Data Form 1 or Data Form 2, as due to SIDS.

Sudden, Unexplained Death (SUD):

Sudden death of an infant less than one year of age due to unexplained cause, suggesting SIDS but not yet having the postmortem examination, scene investigation, or review of social and medical history needed for SIDS designation. Defined operationally by being reported as SUD in Data Form 1.

Reviewable Death:

Death which has been reported by Data Form 1 as requiring review by the CFRP review panel, whether or not the review has yet been completed and reported. The Data Form 1 report is required for all child deaths which occur in Missouri, and includes an indication of whether a review of that death will be required. If Data Form 1 indicates a reviewable death, Data Form 2 should be completed after the review.

Reviewed Death:

Death which has been reviewed by a local CFRP review panel and reported on Data Form 2.

Mortality File County of Death:

The county, reported in the mortality file, in which the death was officially recorded. May be a Missouri or non-Missouri county.

CFRP County of Death:

The county, reported by the Data Form 1 or Data Form 2, in which the death occurred. Only deaths in Missouri are included in the CFRP database.

CFRP County of Incidence:

The county, reported by Data Form 1 or Data Form 2, in which the fatal illness, injury, or event occurred. If the county of incidence is a Missouri county, the death is, by definition, a Missouri incidence death. If the county of incidence is outside the state of Missouri, the death is, by definition, not a Missouri incidence death. If the county of death is in Missouri but the county of incidence is not, only identifying information (Section A of Data Form 1) is requested.

CFRP County of Residence:

The county, reported by Data Form 1 or Data Form 2, as the county of decedent's residence. May be a Missouri or non-Missouri county. If the child is a newborn, the newborn's county of residence is the mother's county of residence.

Area of Incidence:

Location, reported by Data Form 1 or Data Form 2, in which the fatal illness, injury, or event occurred, formatted to conform to the definition of "major SMSA," "minor SMSA," or "rural" area.

CFRP Region:

Location, reported by Data Form 1 or Data Form 2, in which the fatal illness, injury, or event occurred, formatted to conform to the nine geographic regions defined for the CFRP program (see map on Page 46).

Child Abuse/Neglect (CA/N):

Death for which Division of Family Services (DFS) reports substantiated child abuse or neglect. Substantiation may result from DFS investigation or court adjudication. As a cause of death, abuse refers to physical, sexual or emotional maltreatment or injury inflicted on a child, other than accidentally, by persons responsible for the child's care, custody and control, except that reasonably applied discipline, such as spanking, is not construed to be abuse. Neglect refers to failure by persons responsible for the child's care, custody and control to provide the proper or necessary support, education, nutrition, medical care or other care necessary for the child's welfare.

Unsupervised Death:

Death for which data from Data Form 1 and Data Form 2 suggest that the decedent may not have had adequate supervision at time of the fatal injury or death event. Defining variables include reports that the event was unwitnessed, that the caretaker was asleep at the time (except during normal sleeping hours) or that there was no adult caretaker.

Mortality File Abuse/Neglect:

Death for which the ICD-9 code in the mortality file indicates abuse or neglect. Relevant ICD-9 codes are 904.0, 967, and 968.4. These abuse/neglect deaths are usually under-reported relative to those reported by DFS as substantiated child abuse or neglect.

Mortality File Homicide Death:

Death due to homicide, as reported by ICD-9 codes 960-979. Homicide is not defined on Data Forms 1 or 2. Child abuse/neglect deaths as determined by DFS are not necessarily coincidental with homicides, since CA/N deaths, by definition, are committed by a caretaker who has care, custody or control of the child at the time.

Mortality File Suicide Death:

Death due to suicide, as reported by ICD-9 codes 950-959.

Mortality File Autopsy:

Indication from mortality file that decedent was autopsied.

CFRP Autopsy:

Indication from CFRP file that decedent was autopsied.

Maltreatment Death:

Death operationally defined as being due either to homicide, as reported in the mortality file, or to substantiated child abuse/neglect, as reported by DFS.

Violent Death:

Death operationally defined as being due either to homicide (including those homicides due to child battering or other maltreatment) or suicide, as reported in the mortality file.

Appendix 1. Missouri Child Fatality Review Program

Department of Social Services, State Technical Assistance Team

Gus Kolilis, Director
Donna Prenger, Administrator
Richard Easter, Chief Investigator
Rodney Jones, Investigator
Kathleen Loyd, Investigator
Maurine Hill, Technical Investigator
Theresa Murrell, Secretary
Jerry Holder, Urban Case Coordinator, Jackson County
Debbie McDermott, Urban Case Coordinator, St. Louis City
Suzanne McCune, Urban Case Coordinator, St. Louis County

State Child Fatality Review Panel

Roger Barr, Juvenile Officer, 42nd Judicial Circuit
Susan Blue, Social Service Supervisor III, Area 4E Family Services Office
Ted Boehm, Boone County Sheriff
Chief David Niebur, Joplin Police Department
Fred Ward, Randolph County Coroner
Dr. Jay Dix, Boone County Medical Examiner
Harold Bengsch, Director, Springfield Department of Health
Mary Greer, Prosecuting Attorney, Morgan County
Robert Geigle, EMS Supervisor, St Louis City EMS

Child Fatality Review Program, Regional Coordinators

Doug Miller, Division of Child Support Enforcement, Department of Social Services
Becky Mueller, County Director, Lincoln County Division of Family Services, Department of Social Services
Dorothy Adams, Dunklin County Division of Family Services, Department of Social Services
Helen Shore, County Director, Newton County Division of Family Services, Department of Social Services
Maurine Hill, Technical Investigator, State Technical Assistance Team, Division of Family Services, Department of Social Services

University of Missouri-Columbia School of Medicine, Child Injury Research Group

Bernard Ewigman, MD, MSPH, Associate Professor, Director

Prosecutor Peer Group

Mark Aker, Prosecuting Attorney, Washington County
Mary Browning, Division of Legal Services, Department of Social Services
Jane Geiler, City of St. Louis, Assistant Prosecutor
Cynthia Rushefsky, Assistant Prosecutor, Greene County
Dwight Scroggins, Prosecuting Attorney, Buchanan County
Robert Sterner, Prosecuting Attorney, Callaway County
Timothy Wynes, Director, Division of Legal Services, Department of Social Services
Liz Ziegler, Executive Director, Office of Prosecution Services, Office of the Attorney General

Medical Consultant

Douglas Beal, MD, FAAP, MS, Pediatric Specialist

Appendix 2. Mandated Activities for Child Fatalities

Every county must have a multi-disciplinary child fatality review panel (114 counties and City of St. Louis).

The county panel must consist of at least the following six core members: prosecuting attorney, coroner/medical examiner, law enforcement representative, Division of Family Services representative, public health representative and juvenile officer. An Emergency Medical Services representative will be added as a seventh core member. Panels may elect to have additional members.

All deaths, ages birth to 14, must be reported to the coroner/medical examiner.

Children, age one week to one year, who die in a **sudden**, **unexplained** manner must have an autopsy.

A state child fatality review panel must meet at least two times per year to review the program's progress and identify systemic needs and problems.

Panels must use uniform protocols and data collection forms.

Certified child-death pathologists must perform the autopsies.

Knowingly violating reporting requirements is a Class A misdemeanor.

When a child's death meets the criteria for review activation of the panel must occur within 24 hours of the child's death, with a meeting scheduled as soon as practical.

Appendix 3. Criteria for Child Fatality Review

Sudden unexplained death, age less than one year

Death unexplained/undetermined manner

Division of Family Services reports on the decedent or other persons in the residence

Decedent in Division of Family Services custody

Possible inadequate supervision

Possible malnutrition or delay in seeking medical care

Possible suicide

Possible inflicted injury

Any firearm injury

Injury not witnessed by person in charge at time of injury

Death due to confinement

Bathtub or bucket drowning

Suffocation or strangulation

Any poisoning

Severe unexplained injury

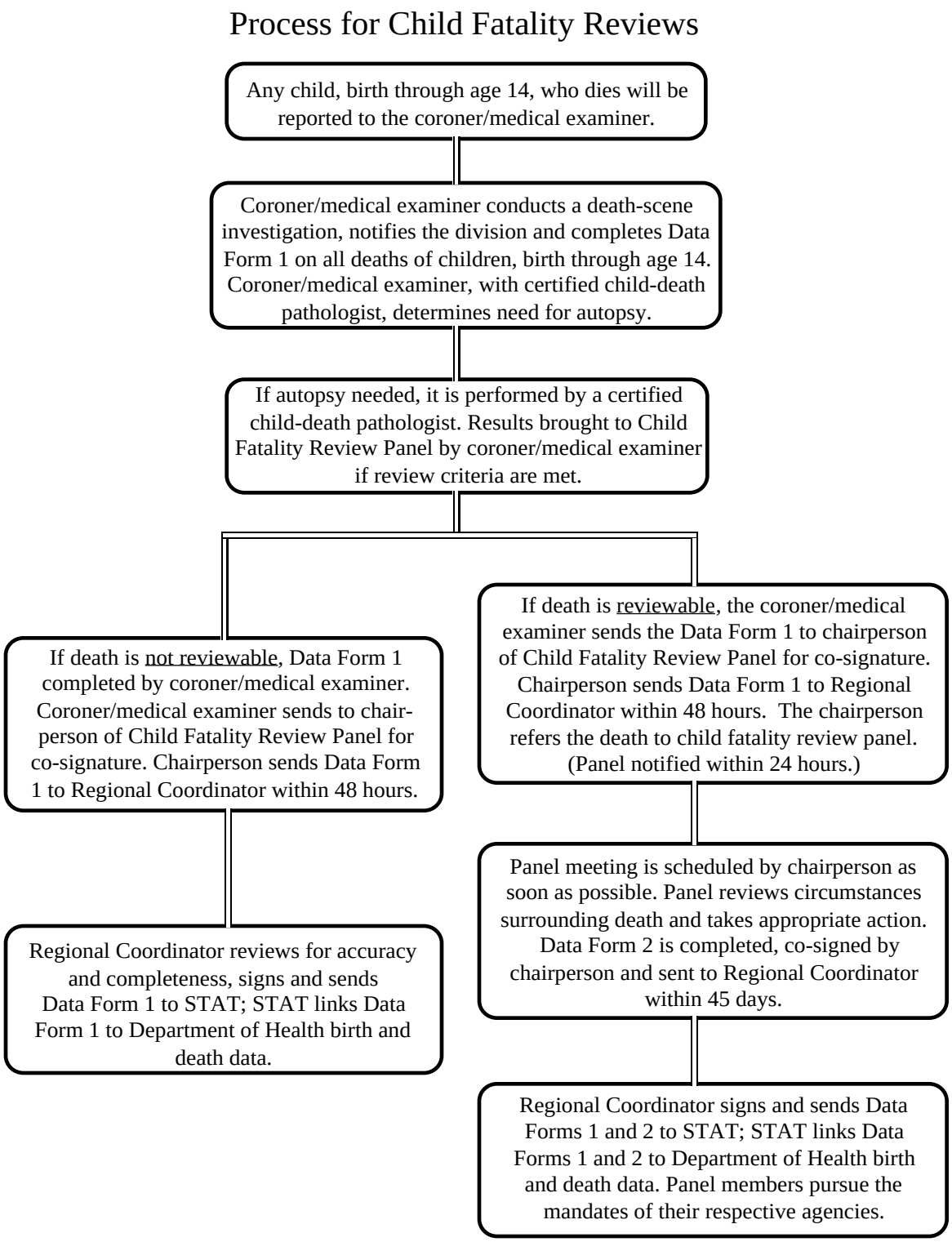
Pedestrian vehicle/driveway injury

Suspected sexual assault

Death due to any fire injury

Other suspicious findings (in injuries such as electrocution, crush injury, or fall)

Appendix 4. Review Process



Appendix 5. Missouri Incidence Child Deaths (Age less than 15) by County

County of Event	All Deaths		Reviewed Deaths		Injury Deaths	
	1993	1994	1993	1994	1993	1994
Adair	6	5	1	0	2	1
Andrew	0	2	0	2	0	2
Atchison	0	1	0	0	0	0
Audrain	3	2	1	1	1	1
Barry	7	4	2	2	3	2
Barton	0	1	0	1	0	1
Bates	1	3	1	1	0	1
Benton	0	1	0	0	0	1
Bollinger	4	3	1	1	4	1
Boone	42	37	5	4	1	1
Buchanan	17	13	3	3	2	2
Butler	18	16	6	5	2	7
Caldwell	0	3	0	3	0	2
Callaway	1	0	0	0	0	0
Camden	1	6	0	1	0	2
Cape Girardeau	11	7	3	3	1	3
Carroll	2	4	1	2	1	2
Carter	2	0	0	0	0	0
Cass	6	6	3	3	0	3
Cedar	5	1	4	1	0	1
Chariton	0	0	0	0	0	0
Christian	2	2	1	0	1	0
Clark	1	0	1	0	0	0
Clay	22	17	16	12	5	5
Clinton	1	2	0	2	0	0
Cole	13	1	6	1	5	1
Cooper	2	1	1	0	2	1
Crawford	0	5	0	2	0	1
Dade	1	1	0	0	0	1
Dallas	1	3	0	2	1	0
Daviess	3	1	1	1	2	0
De Kalb	1	0	1	0	0	0
Dent	4	1	3	0	3	1
Douglas	0	1	0	1	0	1
Dunklin	5	8	0	3	0	2
Franklin	9	9	9	4	5	4
Gasconade	3	1	1	1	2	1
Gentry	1	0	0	0	1	0
Greene	64	50	8	8	4	7
Grundy	0	1	0	0	0	0
Harrison	2	1	1	1	1	1

Appendix 5. Missouri Incidence Child Deaths (Age less than 15) by County

County of Event	All Deaths		Reviewed Deaths		Injury Deaths	
	1993	1994	1993	1994	1993	1994
Henry	4	3	1	0	1	2
Hickory	0	1	0	0	0	0
Holt	0	0	0	0	0	0
Howard	1	0	0	0	0	0
Howell	7	11	2	3	0	2
Iron	0	2	0	1	0	1
Jackson	193	162	62	49	23	18
Jasper	15	7	11	5	7	3
Jefferson	22	20	16	14	10	6
Johnson	6	6	4	3	2	1
Knox	1	0	0	0	0	0
Laclede	6	6	2	4	2	3
Lafayette	2	8	1	4	0	2
Lawrence	5	3	2	2	1	2
Lewis	0	0	0	0	0	0
Lincoln	7	7	5	2	5	1
Linn	2	2	1	2	1	1
Livingston	1	2	0	0	0	0
McDonald	2	1	2	0	1	0
Macon	4	0	3	0	3	0
Madison	2	0	2	0	1	0
Maries	1	2	0	1	1	1
Marion	7	2	3	0	1	0
Mercer	0	0	0	0	0	0
Miller	3	3	2	3	1	1
Mississippi	1	2	0	0	0	0
Moniteau	0	2	0	2	0	1
Monroe	0	1	0	0	0	1
Montgomery	1	1	1	0	1	0
Morgan	3	3	2	3	2	3
New Madrid	4	8	2	3	2	2
Newton	15	13	3	3	2	2
Nodaway	0	2	0	0	0	0
Oregon	0	0	0	0	0	0
Osage	1	1	1	1	0	1
Ozark	0	1	0	0	0	0
Pemiscot	12	5	6	3	4	0
Perry	6	3	0	1	1	3
Pettis	0	3	0	2	0	1
Phelps	7	7	3	1	3	1
Pike	3	3	2	1	0	1

Appendix 5. Missouri Incidence Child Deaths (Age less than 15) by County

County of Event	All Deaths		Reviewed Deaths		Injury Deaths	
	1993	1994	1993	1994	1993	1994
Platte	4	5	2	2	1	0
Polk	3	5	1	3	1	2
Pulaski	6	5	3	2	2	2
Putnam	2	1	2	0	2	0
Ralls	0	0	0	0	0	0
Randolph	0	5	0	2	0	4
Ray	3	2	3	2	2	0
Reynolds	1	0	1	0	0	0
Ripley	4	1	3	1	3	1
St Charles	22	20	6	10	5	5
St Clair	0	1	0	1	0	1
St Francois	10	9	4	2	3	4
St Genevieve	0	2	0	1	0	2
St Louis County	177	176	50	38	28	14
Saline	5	2	2	0	3	1
Schuyler	0	0	0	0	0	0
Scotland	1	0	1	0	0	0
Scott	11	5	0	1	3	0
Shannon	0	0	0	0	0	0
Shelby	0	0	0	0	0	0
Stoddard	2	2	1	1	1	1
Stone	3	4	1	2	1	2
Sullivan	0	1	0	0	0	0
Taney	2	2	0	1	1	1
Texas	2	2	1	0	0	0
Vernon	4	3	3	3	0	1
Warren	2	2	2	2	1	2
Washington	3	2	3	1	2	0
Wayne	2	3	1	0	0	1
Webster	6	4	0	0	4	0
Worth	0	0	0	0	0	0
Wright	1	3	0	1	0	1
St Louis City	173	149	55	53	23	21
STATE TOTAL	1054	939	364	313	210	185

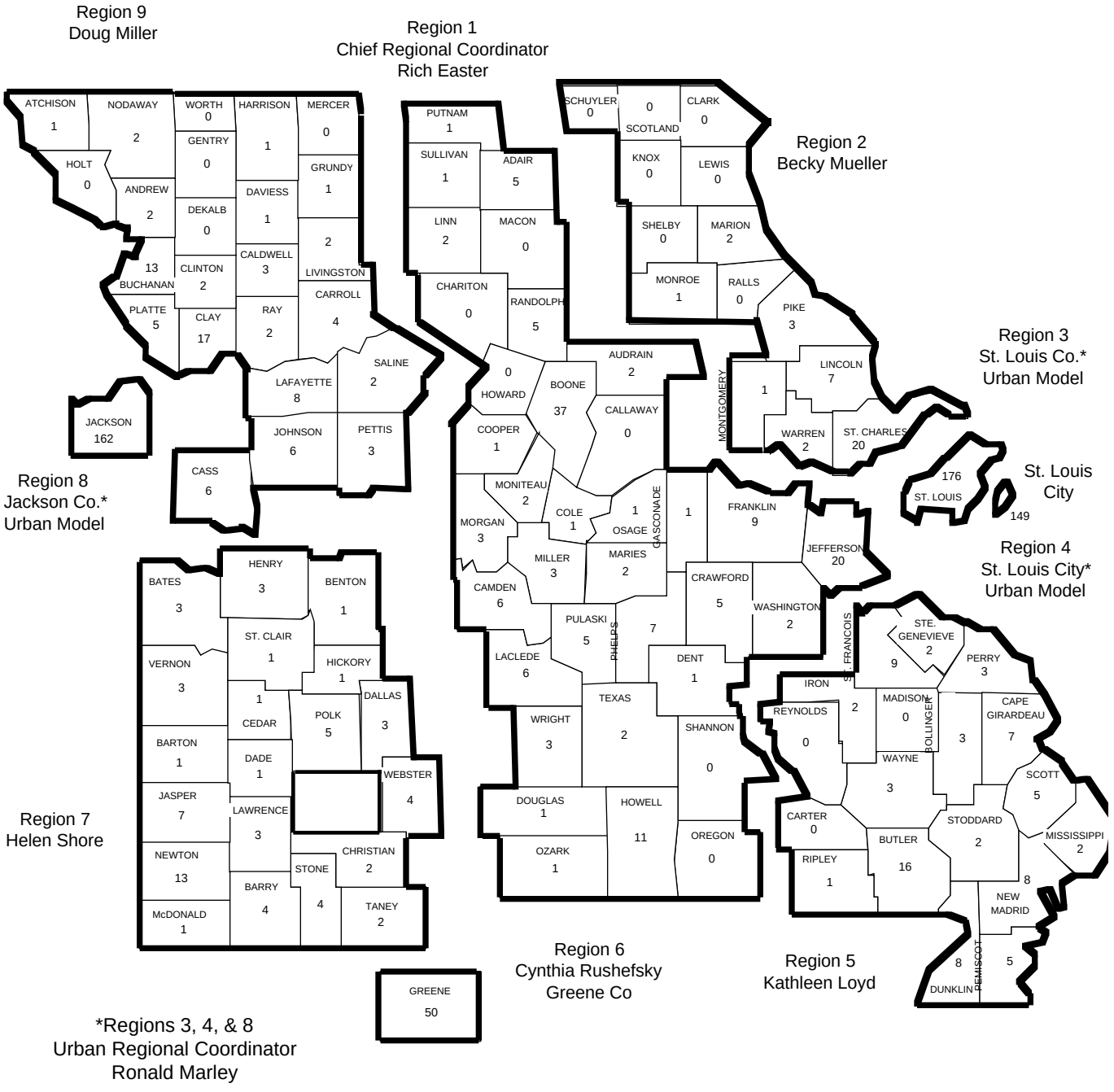
Appendix 6. Missouri Incidence Child Deaths (Age less than 15) by Age, Sex, Race and Month

Characteristic	All Deaths		Reviewed Deaths		Injury Deaths	
	1993	1994	1993	1994	1993	1994
Age of Child						
0	715	651	193	178	29	35
1	60	35	30	13	28	12
2	35	35	25	22	24	23
3	29	18	16	9	17	9
4	23	22	10	11	9	11
5	24	15	8	3	8	5
6	19	22	4	12	8	11
7	10	14	3	6	3	5
8	20	10	8	5	9	8
9	20	10	15	2	14	6
10	15	14	8	7	11	9
11	17	14	6	6	7	9
12	23	24	13	10	14	10
13	20	22	11	10	14	8
14	24	33	14	19	15	24
	1054	939	364	313	210	185
Sex of Child						
Male	608	535	229	184	137	116
Female	443	383	135	127	73	68
Unknown	3	21	0	2	0	1
	1054	939	364	313	210	185
Race of Child						
White	736	637	237	201	149	136
Black	294	272	124	106	60	44
Other	10	10	0	3	1	4
Unknown	14	20	3	3	0	1
	1054	939	364	313	210	185
Month of Death						
January	103	83	34	29	17	14
February	94	88	36	26	14	18
March	107	77	38	30	19	16
April	75	65	24	18	16	8
May	85	76	36	21	16	22
June	92	80	28	36	21	24
July	92	87	36	31	31	26
August	72	93	21	24	18	11
September	83	65	21	20	14	13
October	83	70	27	22	11	11
November	81	88	30	30	17	12
December	87	67	33	26	16	10
	1054	939	364	313	210	185

CHILD FATALITY REVIEW PROGRAM

1994 COORDINATOR REGIONS

AND CHILD DEATHS PER COUNTY *



* CHILD DEATHS: Missouri Incidence Deaths of Children Ages < 15.

The State Technical Assistance Team (STAT) would like to acknowledge the efforts of the Department of Social Services' Research and Evaluation Unit, particularly, Michael Malaby and Beverly Roberts, in compiling the statistics for this annual report and for their ongoing responsiveness to the data needs of this unit.

For additional information about Missouri's Child Fatality Review Program call 1-800-487-1626 or write to State Technical Assistance Team, PO Box 88, Jefferson City, Missouri 65103-0088.